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Original Articles

Report

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Submitted papers (**in duplicate**) should be typewritten, in double spacing throughout on one side of A4 paper. Generally each component of the manuscript should begin on a new page in the following sequence.

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* **Illustrations** must be provided with a suitable legend typed on a separate sheet. Graphs should be 2-3 times larger than they would appear in the journal and contain a minimum of lettering. Legends for these should also be typed on a separate sheet. Photographs should be original sharp, glossy black & white prints. Authors wishing to submit colour photographs must contact the Editor in the first instance.

* **Tables** should be typed on a separate page complete with a title at the top and footnotes at the bottom. The tables should be numbered as they appear in the text and must *not* contain vertical lines.

* **Acknowledgements** should be made to people and/or organisations who have made substantial contributions to the study. Authors are responsible for obtaining consent from those acknowledged. Financial contributions towards the study from granting bodies or commercial organisations must be stated.

Two copies of the manuscript are to be addressed to the Editor NZ J Med Lab Science, c/- Department of Medicine, Wellington School of Medicine, PO Box 7343, Wellington South, together with a letter from the corresponding author stating that the work is original, is not under consideration for publication elsewhere, and in the case of multi-authorship that all authors have contributed directly to the planning, execution, analysis or to the writing of the paper.

von Willebrand's Disease – A review

J Anastasi, C Kendrick
Massey University, Palmerston North

Introduction

Von Willebrand's disease (vWD) was discovered in 1926 and has since become the most common congenital bleeding disorder[1]. Reduced synthesis of Von Willebrand's factor (vWF) is the principle defect of this highly variable disease[2-4].

vWF is a complex glycoprotein consisting of varying molecular weight multimers which circulate in the plasma and is stored within platelets and endothelial cells[5]. vWF is essential in maintaining normal haemostasis and acts as a carrier molecule for Factor VIII:C protecting it from destruction by activated protein C or Factor Xa. Furthermore vWF is necessary for platelet adhesion and thrombus formation. It achieves this by blinding to glycoproteins on the platelet surface, while interacting with collagens and heparin exposed on injured subendothelium. A molecular bridge forms promoting adhesion of other repair molecules[6-7].

The inheritance of vWD is generally an autosomal dominant trait; the exceptions to this being the recessively inherited type III and type IIC heterozygote[8]. The theoretical chance of an autosomal dominant parent transmitting the defective von Willebrand's gene is 50%. In practice, vWD affects only 33% of children. This is due to the heterogeneous nature of vWD resulting in variable penetrance and expression[9]. The vWF gene is located on chromosome #12 where point mutations and deletions lead to the production of abnormal vWF.

The clinical symptoms of vWD vary greatly in severity. The most common disorder is mucus membrane bleeding. Shear forces in the small blood vessels of the skin and mucous membranes do not allow platelet adhesion and plug formation. Other symptoms are excessive bruising, prolonged bleeding from minor cuts and post-operative bleeding. Less commonly seen symptoms include gastrointestinal bleeding and post-partum haemorrhage. Menorrhagia not caused by hormonal factors occurs in 35% of cases. Bleeding tendencies in Type III vWD are similar to those of Haemophilia A; with haemarthroses, muscle bleeds and life threatening haemorrhages after trauma[1].

Laboratory diagnosis

Screening tests in suspected cases include the bleeding time, platelet count and activated partial thromboplastin time (APTT). If indicated further tests to verify the diagnosis include FVIII:C assay, vWF antigen assay (vWF;ag), ristocetin induced platelet aggregation (RIPA) and ristocetin cofactor activity assay (RiCoF). These tests can vary at different times in the same patient. Therefore to ensure accurate diagnosis and patient evaluation, testing should be repeated on more than one occasion[9]. Other factors affecting laboratory testing are the type and subtypes of vWD, various drugs and clinical conditions.

The bleeding time is a simple and accurate method of assessing platelet function. The most common method is the modified Ivy's bleeding time, with vWD sufferers showing a prolonged result. In type I vWD prolonged bleeding times correlate with the level of vWF:ag and the severity of the disease. However, this relationship does not hold for type II. In mild cases of vWD measurement of the bleeding time after administration of aspirin can improve the sensitivity of detection[1].

The platelet count in vWD is in most cases normal which can help distinguish this disease from other disorders of platelet function. FVIII levels are usually low causing a characteristic prolonged APTT. Exceptions to these findings exist in some of the less frequently encountered variant forms[5].

There are a variety of methods that are used to quantify vWF:ag in plasma each with varying degrees of sensitivity[1,5]. An enzyme linked immunosorbent assay (ELISA) has been developed in which vWF:ag binds to antibody coated microtitre plates. A second chromogenically labelled antibody attaches to the immobilised vWF:ag and colour is produced proportional to the concentration of vWF:ag. This method is simple, fast and has good sensitivity. Two immunoradiometric assays (IRMA) are available quantifying vWF:ag by either precipitation or antibody and solid matrix principles.

The Elisa based RIPA bioimmunoassay incorporates the use of a monoclonal antibody directed against the glycoprotein Ib binding site of vWF. Ristocetin (an antibiotic that induces platelet aggregation in normal individuals but not in vWD patients) is added in differing concentrations. The test is useful in detecting mild cases and is also useful in classifying type IIb individuals who show an increased sensitivity to ristocetin.

Quantitation of ristocetin cofactor activity via the RiCoF assay is one of the most reliable indicators of vWD and is most closely related to the biological activity of vWD. Platelets mixed with dilutions of test plasma in a platelet aggregometer have ristocetin added. The change in optical density is used to calculate the amount of aggregation which is proportional to the activity[1].

Classification

The international Society of Thrombosis and Haemostasis revised the classification of von Willebrand Disease in 1993 identifying three major categories. Quantitative defect in type 1, qualitative defect in type 2 and complete deficiency in type 3. In addition pseudo and acquired forms of the disease exist. Classification of vWD is important in the selection of appropriate therapy and in prognostic evaluation.

Type I vWD accounts for 70% of cases and is generally clinically mild. The group includes subtypes IA, IB, IC and variant forms and is characterised by a decreased level of normal vWF in the plasma. IA is the most common subtype. Type IB is clinically indistinguishable from IA and is characterised by a decrease in high MW multimers. Subtype IC vWD is characterised by the presence of abnormal satellite bands with normal levels of each multimer. Variant forms also exist within this class. The molecular basis for the abnormality is undefined[11].

In type II vWD there are several structural and functional abnormalities in vWF molecules usually characterised by the lack of large and sometimes intermediate multimers. Laboratory values differ with vWF:ag and FVIII activities normal or only slightly reduced. The group accounts for 10-15% of cases and is divided into four subtypes. Subtype IIA vWD exhibits a structural abnormality, caused by a missense mutation in the A2 domain of the vWD protein[12] resulting in decreased platelet GPIb glycoprotein. This can lead to platelet aggregation, thrombocytapenia and an increased RIPA[13]. Levels of FVIII and vWF:ag are variable in this subtype. Both IIA and IIB multimers have an increased susceptibility to proteolysis. The recessive type IIM leads to a

decreased production of large multimers and defects in the satellite bands affecting affinity for GPIb. FVIII and vWF:ag are usually normal with the multimers showing decreased degradation. Type 2N vWD is linked to defective binding of FVIII to the carrier vWF molecule[9].

Type III or type IS vWD is the most clinically severe, usually appearing in early childhood. Most patients show an autosomal recessive pattern of inheritance of the defective gene and have very low or undetectable amounts of vWF:ag. Other findings include an absent RIPA and markedly decreased FVIII levels[10].

Pseudo or platelet type vWD is a platelet defect that mimics vWD. The platelet membrane glycoprotein Ib/IX complexes show an increased avidity for the high molecular weight multimers of normal vWF. The defect in type IIB and pseudo vWD is similar making differentiation between the two difficult[8]. The use of a radiolabelled monoclonal antibody is able to distinguish the two examples [4].

Acquired von Willebrand's syndrome is a disease closely resembling the inherited disease. It can occur in individuals with no previous history of homeostatic disorders. It is found most frequently secondary to autoimmune disorders, lymphorproliferative disease, monoclonal gammopathy, lupus erythematosis and malignant neoplasms[15]. Decreased levels of vWF and FVIII form the antibody mediated aggregation and proteolysis causes haemorrhage ranging from mild to severe.

Treatment

The goals of treatment are to normalise FVIII activity and the bleeding time. The first line treatment in most cases is desmopressin (DDAVP) therapy[16]. DDAVP promotes the rapid release of vWF from storage sites increasing FVIII levels and shortening the bleeding time. This form of therapy is effective in type I but less so in types IIA and IIC where a functionally abnormal vWF molecule is produced. DDAVP is ineffective in IIB, platelet and acquired forms of the disease in which its use may cause platelet aggregation and thrombocytapenia. The side effects of DDAVP include vasodilation causing flushing and occasionally thrombosis.

The second treatment of choice is vWF rich cryoprecipitate. This normalises the bleeding time for a few hours. FVIII levels continue increasing after treatment due to the infused vWF acting as a carrier for endogenous FVIII. Factor VIII concentrates are only used in type III patients when severe bleeding occurs. This is because this product contains little functional vWF and there is a risk of virus transmission from human derived products[8]. Approximately 10% of type III patients with life threatening bleeding develop antibodies after repeated treatment. Antibodies inhibit the platelet adhesion property of infused vWF by causing rapid degradation. Clinically the patient develops anaphylactoid type reactions following the transfusion of cryoprecipitate or plasma. Hydrocortisone or antihistamines can decrease this reaction but do not prevent it.

Fibrinolytic inhibitors permit normal clot formation and can be useful in the prevention and treatment of mucosal bleeding[16].

Conclusions

von Willebrand's disease is a familial bleeding disorder that results from a quantitative or qualitative defect in vWF leading to decreased levels of available FVIII for clotting. In most cases the prognosis for types I and II is good and patients generally lead normal lives. In the future research into the molecular structure of vWF may lead to superior replacement products and studies into the genetics of the disorders should provide accurate statistics on the heterogeneous inheritance of vWD. These developments will allcontribute to the decrease in frequency and severity of this bleeding disorder.

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The Bayer Haematology Essay

The winner of the 1997 Bayer essay prize for students in the 4th year of the BMLS programme at Massey University was Jenny Anastasi. Jenny was one of 10 students who elected a haematology specialty to complete their degrees and submitted a review on the subject of 'von Willegrand's disease'. Jenny's review (which appears in this publication) was judged to be the winner and she received $500.00 cash and products generously donated by Bayer, New Zealand Ltd. Jenny completed her clinical training year at Lakeland Health Ltd. in Rotorua and is now employed in the Microbiology Department at Middlemore Hospital. Jenny is pictured receiving her prize from Joanne Paton from Bayer.

The Quantitation of anti-Rh(D) in New Zealand Blood Donors Used for the Manufacture of Anti-Rh(D) Immunoglobulin.

Robert Coleman, Jandhe Carter, Anna Pryde, Graeme Woodfield, Steve Henry.*
Department of Transfusion Medicine, Auckland Regional Blood Centre, Auckland, New Zealand and Auckland Institite of Technology, Auckland.
**Corresponding author*

Abstract
Quantitation of IgG anti-Rh(D) levels of plasma being exported from New Zealand for the manufacture of anti-Rh(D) immunoglobulin revealed that 44% of donors had plasma levels of anti-Rh(D) that were unsuitable for fractionation. The effect of deliberate red cell immunisation of low level anti-Rh(D) donors was also monitored and two thirds of donors were found to produce satisfactory rises in anti-Rh(D) levels. Comparisons between titrations and quantitation revealed that although on average there was good correlation, very large ranges of anti-Rh(D) levels were observed within each titration value. It was evident from this study that red cell boosting of donors and the exclusion of plasma containing low levels of anti-Rh(D) is essential if New Zealand is to produce source material plasma of sufficient quality for the production of anti-Rh(D) immunoglobulin.

Keywords
Anti-Rh(D), quantitation

Introduction
Until about 1970, incompatibility due to maternal anti-Rh(D) was the most common cause of moderate to severe cases of haemolytic disease of the foetus and newborn . The prevention of haemolytic disease of the newborn due to anti-Rh(D) by the prophylactic administration of anti-Rh(D) immunoglobulins has been immensely successful[1]. However, success has been a 'catch 22' situation because the prevention of natural anti-Rh(D) immunisation has resulted in a shortage of anti-Rh(D) plasma for the production of anti-Rh(D) immunoglobulin to prevent anti-Rh(D) immunisation. This problem was to some extent addressed by actively immunising Rh(D) negative donors with Rh(D) positive cells (boosting) and maintaining this donor panel of 'boosted' donors. Due in part to the potential development and arrival of monoclonal anti-Rh(D) for propylaxis, as well as concerns related to the problems of disease transmission by red cell immunisation the maintenance of the anti-Rh(D) donor panel had been downsized. As a consequence New Zealand has recently been unable to meet its anti-Rh(D) plasma requirements for anti-Rh(D) immunoglobulin fractionation. As the replacement of the polyclonal (blood donor) anti-Rh(D) with the monoclonal product is still not expected to occur for several more years, we re-evaluated our assay procedures for the continued supply of anti-Rh(D) plasma for immunoglobulin preparation.

Previously plasma was exported to CSL Ltd in Australia for production into anti-Rh(D) immunoglobulin on the basis of high (≥256) or low serological titre (<256). During the last few years the number of vials of immunoglobulin being prepared from each kilogram of plasma fell from 30 to 10. The level of anti-Rh(D) per kg of plasma in 1997 was at such a critical stage that the manufacture of a product complying with product specifications was at risk. In order to evaluate, monitor and improve our anti-Rh(D) plasma supply we established an anti-Rh(D) quantitation assay[2]. We report here our experience with the introduction of anti-Rh(D) quantitation to monitor anti-Rh(D) plasma donors for the production of anti-Rh(D) immunoglobulin.

Materials and Methods
Plasma samples from 109 donors, submitted by various centres throughout New Zealand for routine anti-Rh(D) level determination, were tested. All samples from each donor were quantitated on several occasions using the EIA method developed in our laboratory[2]. During the course of this study 16 anti-Rh(D) donors with low levels of anti-Rh(D) were boosted with Rh(D) positive red cells to increase anti-Rh(D) levels. Serial samples from these boosted donors were, where possible, assayed by both EIA quantitation and serological antibody titration. Titrations were determined by doubling dilutions of plasma in saline and recording the endpoint observed in the indirect antiglobulin test (IAT).

Results and Discussion
The current policy* of CSL Ltd (Bioplasma), the processor of New Zealand's anti-Rh(D), requires that plasma for the manufacture of anti-Rh(D) immunoglobulin be identified as either low or high level. Low level anti-Rh(D) (for New Zealand) is plasma which contains 10-45 IU/ml while high level is that which contains more than 45 IU/ml. Plasma with less than 10 IU/ml is not currently suitable for export for anti-Rh(D) immunoglobulin production. Analysis of the quantitated levels of anti-Rh(D) in donors whose plasma was submitted for export (table 1) revealed that despite serological titrations indicating suitability, only 56% of the current donors were suitable for anti-Rh(D) immunoglobulin production, using the current guidelines. It can also be seen from this table that the larger centres had a higher proportion of suitable donors, which probably reflects the availability of a red cell immunisation programme.

During this period of quantitation we re-established our red cell boosting programme and immunised 16 donors. A summary of their quantitated anti-Rh(D) levels and serological titrations is shown in table 2. One third of the donors showed little or no response (rise of 0-10 IU/ml). One individual #20 was reboosted at 4 weeks and still showed no response. This lack of response of some individuals to Rh(D) boosting is in accord with the Australian experience (R Pepper, personal communication). The remaining two thirds of the immunised donors all showed varying rises in quantitation ranging from 15 to 150 IU/ml. The ability to positively respond was clearly established within 2 weeks with the peak rise showing variation between donors and occurring within 4-8 weeks. This variability is in accord with the reports summarised by Mollison et al[1]. The ability of titrations to measure the response to boosting was very poor, and in all but the three samples

Table 1. Analysis of the number of anti-Rh(D) donors with; unsuitable (<10), low (10-45), high (46-120) and very high (>120) levels of anti-Rh(D) (IU/ml).

Region	Donors	anti-Rh(D) level IU/ml			
	n	<10	10-45	46-120	<120
Auckland	47	8	20	12	7
Christchurch	13	8	2	2	1
Palmerston Nth	12	6	6		
Dunedin	9	6		2	1
Hamilton	5	2	1		2
Rotorua	2	1			1
Others*	21	17	4		
TOTAL	109	48	33	16	12
%		44	30	15	11

*Hutt, Invercargil, Kaitaia, Masterton, New Plymouth, Taranaki, Tauranga.

(all with increases in excess of 100 IU/ml), the change in titre observed was within the accepted '±1 tube' error of serology.

Correlation of the anti-Rh(D) quantitation levels with the serological titre data revealed a poor correlation(exponential regression R^2=0.72,) (Figure 1). It can be seen that the range in levels of anti-Rh(D) measured at each titre point was very large.

For example, at a titre of 1024 quantitated anti-Rh(D) levels ranged from 10-75 IU/ml with more marked ranges at the higher dilutions. However, if the titre results are averaged and plotted against the quantitation results then an excellent correlation is obtained (exponential regression, R^2=0.99).

Previously we had exported plasma as high titre when it had a titre greater than or equal to 256. However the average quantitation at 256 represents only about 10 IU/ml of anti-Rh(D) (with a range of 5-20 IU/ml) (Fig.1), which is significantly less than the required 45 IU/ml. It is therefore clear that in addition to the very large range in anti-Rh(D) levels obtained in serological titrations, the cutoff value for the determination of high level anti-Rh(D) plasma had been set too low.

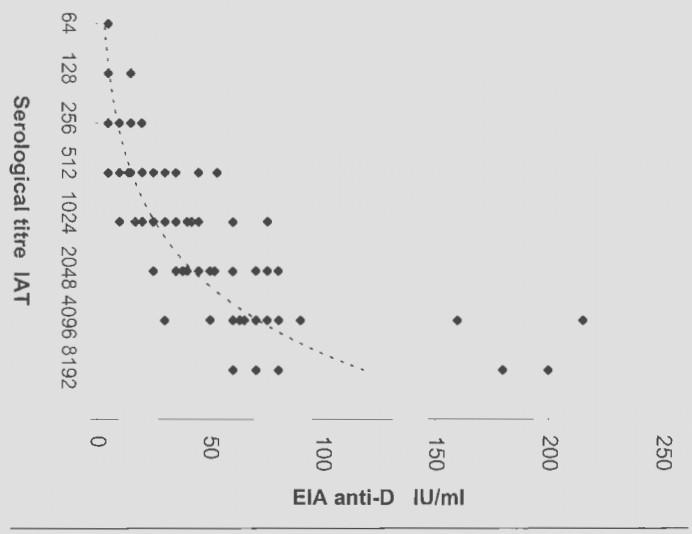

Figure 1. Correlation between serological indirect antoglobulin titre (IAT) and amount of IgG anti-Rh(D) (IU/ml) as determined by EIA quantitation. The exponential regression correlation curve (best fit) is shown by the broken line.

Table 2. Effect of anti-Rh(D) boosting (secondary immunisation with 1ml of Rh(D) positive red cells) as measured by both EIA quantitation (large font) and antibody titration (small font underlined). Week 0 is the level of anti-Rh(D) prior to boosting.

Donor	Weeks post boosting											Max rise
#	0	2	4	6	8	10	12	14	16	18	20	IU/ml
21	10	10										0
20*	35	35	30	35	35					35		0
41	30				35					40		+5
40	<10			29								+10
26	30	50			35		40					+10
3	5	15										+10
8	40	80		55			55	60				+15
4	20	15			50		45					+30
42	<10		50		60		2[illegible]		30		40	+40
34	35		55		80							+45
14	20		75		95							+60
15	10		40		80					2[illegible]		+70
16	15				70			75				+80
7	35	10[illegible]								10[illegible]	95	<100
25	30		190			185						+150
18	5	180										+175

In summary, the introduction of quantitation of anti-Rh(D) in donors used for the production of anti-Rh(D) immunoglobulin revealed the poor quality of some plasma being exported. It was evident that the serological titre criteria (ie. >256) was clearly overestimating anti-Rh(D) levels (in relation to quantitation values) and that in general, titrations appear inadequate in determination of anti-Rh(D) levels. By re-evaluating our export criteria, re-introduction of boosting programmes and continued quantitation monitoring of exported plasma we expect to significantly improve the quality and cost effectiveness of New Zealand plasma used for anti-Rh(D) immunoglobulin production.

*The current policy is determined by a working party of Australian and New Zealand scientists and is co-ordinated by CSL Ltd (Bioplasma), Australia.

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Council News

Last meeting April 1998

National Blood Service

A reply to our letter to the NBS was received. The process of the organisation of the new National Blood Service (NBS) has been slowed down allowing time for developing an IT system.

The NBS is producing a monthly newsletter informing of their progress towards implementation.

Health Occupational Review

The Ministry of Health has given notification that the review of the health sector occupational regulation statutes (registration), is not on the parliamentary agenda for 1998. The intention is still to reform these statutes but in the meantime registration by the MLTB remains the same.

Health Funding Authorities

A response has been made to a discussion document from the Southern Regional Health Authority regarding National Budget Holding and direct contracting by IPAs for Laboratory Services. Our primary concern is for the quality of the laboratory service to remain high. We are also concerned that there will be sufficient places in laboratories for the training of 4th year students in the BMLS courses.

The Health Funding Authority asked for comments on how they could best get and use advice from professional organisations, when developing their strategies and policies. The NZIMLS has responded that we would like to be consulted on proposals concerning clinical laboratories and suggested that a laboratory advisory professional organisations.

Since the above a consultation paper, "Primary Referred Laboratory Services", has been received which we will respond to.

NZIMLS Certificates

Membership certificates have been revised. These will now be A4 in size and on coloured parchment paper with a sticker of the seal, except for Fellowship which will have a wax seal.

IAMLT

The IAMLT meeting was held in Singapore in June. John Elliot, Wellington Hospital, attended the meeting and acted as NZIMLS delegate at the General Assembly of Delegates.

BMLS

The BMLS at Massey University is now in the Institute of Veterinary and Biomedical Science department. The Immunology section of the 4th year of the course has been incorporated into Clinical Biochemistry and Virology is no longer available.

Concern has been expressed by the BMLS courses that 4th year placements in laboratories are becoming hard to find. Our profession will only remain healthy if new scientists are being trained. Laboratories are encouraged to play their part by practical training of students.

Fellowship

There have been 4 applications to sit the new Fellowship.

Subscriptions

A number of members are in arrears for their membership fee. The total owing for the last 2 years is $14,000. The executive officer is going to phone non-financial members asking if they wish to remain a member. Those that then become financial will receive a membership pack.

1998 Budget

The Treasurer produced a budget for 1998 which shows an expected excess of expenditure over income of $5000.

Special Interest Groups

Alison Buchanan has resigned as convenor of the Biochemistry SIG. Alison has been the convenor since the SIGs started and we thank her for her hard work.

Trevor Walmsley of Canterbury Health Laboratories has consented to becoming the new convenor.

The Immunology Special Group has a new convenor, David Haines of Medlab Auckland.

Meeting with Industry

The Council met with representatives of the companies who are our major sponsors. Discussion centred on the ASM, SIG meetings and sponsorship. The valuable comments made by these sponsors will be considered when determining new policies.

Medical Laboratory Science Trust

The MLST is to be wound up, probably by the year 2000.

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Transfusion Science

Special Interest Group

TSSIG Members

Geoff Herd, Sue Baird, Ray Scott, Christine van Tilburg, Holly Perry, Simon Benson, Andrew Mills, Sheryl Khull, Raewyn Clark, Tony Morgan, Diane Whitehead, Suzanne Williams, Les Milligan.

NICE Weekend Report

The 1998 NICE Weekend was held at Wairakei over 8-10 May. It was fully attended, with 51 participants including 21 who had never been to a NICE Weekend before. One of these was the winner of the Abbott award, Richelle Roxburgh from Christchurch, whose presentation case study of neonatal alloimmune thrombocytopenia was entitled "Double Trouble". Here are some photographs of some of the action and a report from Geoff Taylor on this, his first, NICE Weekend, as well as the abstracts of all presentations and a chance for all those who didn't get to go to give us some feedback on how to organise next year's NICE Weekend.

Report on N.I.C.E. Weekend 8-10 May 1998

This continuing education meeting has been running for nine years and I have been wanting to attend for years, but there has always seemed to be some reason to prevent this happening for me. This year I was determined to go and I am very pleased I did.

Having to present a five minute topic or a poster is a winning combination for the organisers.

Highlights:

Nick Page's presentation of an anti-LW discovery.

Robyn Mardell's presentation of extreme measures taken to save a shark attack victim.

Richelle Roxburgh's presentation of Double Trouble - Neonatal Allo Immunme Thrombocytopenia caused by anti-HPA 1-A.

Diane Matheson's presentation and the discussion that followed relating to practical ways of treating donors well.

Suzanne Williams's presentation of Fibrinogen in Cryoprecipitate showing that holding plasma at -5° Celsius for 3 days releases more fibrinogen.

Gerri Jones's presentation of Microaggregates in Blood Donations and the interesting discussion that followed. Simon Benson's presentation of Blood on the Web.

Les Milligan's presentation which ended with an emotive statement which made me feel glad to be a part of the New Zealand Blood Service.

Mike Guerts's presentation of Waikato's reasons for discontinuing enzyme testing.

Grant Bush's presentation of funny names he has encountered in his blood bank.

The food.

The hot pools.

The light-hearted atmosphere which pervaded the whole weekend.

Summary

I have gained valuable knowledge from being part of this seminar and feel the N.I.C.E. Weekend has benefited my career. I am starting to make enquiries about losing enzyme screening on the Quatro BG-100.

Geoff Taylor
Donation Accreditation Department

NICE Weekend Abstracts

D Day
by Tony Morgan
Blood Bank, Napier Hospital, Napier

A Group and Antibody Screen was requested on Mrs. G. A straightforward request until Mrs G who grouped as A Positive gave us a positive antibody screen. The antibody was identified as anti-D.

A Case of Acquired B
by Robert Amoore

A sample presented as a grouping anomaly, giving a positive reaction with some but not all anti-B typing sera. Acquired B antigen was detected by using monoclonal acquired B antisera and a re-acetylation method using acetic anhydride.

Blocking Anti-D – Fact or Fiction?
by Lloyd Rigby
Auckland Regional Blood Service, Auckland Hospital, Auckland

Theory or fact: a case presentation of a phenomenon rarely seen in practice. A case history will be presented to demonstrate that what is written in text books can occasionally be seen at the bench.

Complication of an Unusual Antibody
by Judy Skullan
Blood Bank, Whangarei Hospital, Whangarei

This presentation covers the discovery in a Whangarei man of an unusual Lutheran antibody which caused considerable difficulty in identification, and the consequent problems in finding compatible blood, resulting in an autologous donation. A brief overview of the Lutheran system is given.

Two Unusual Antibodies
by Linda Pinder
Auckland Regional Blood Service, Auckland Hospital, Auckland

Although antibodies of the Cartwright system were first reported in 1956, no examples have, to my knowledge, been reported in the New Zealand population. In the past few months we have had the opportunity to study examples of both anti-Yta and anti-Ytb. A brief report of each case will be presented.

When an O is Not an O
by Geoff Taylor
Auckland Regional Blood Service, Auckland Hospital, Auckland

There is a risk of mis-typing group Ax samples as group O using some commercial blood grouping antisera. Data is presented showing serological findings on an interesting blood donor processed at the Auckland Regional Blood Centre.

The Problem with Kidds
by Patricia Joy
Blood Bank, National Womens Hospital, Auckland

A case study of a delayed transfusion reaction due to anti-Jka complicated by the development of a further antibody.

Keep It Simple S...
by Kathy Clark
Blood Bank, North Shore Hospital, Auckland

A case presentation of Haemolytic Disease of the Newborn. Parts of this case history point to the danger of having preconceived notions when performing blood bank testing.

Anti-D On Line
by Janine Gundersen
Transfusion Medicine, Palmerston North Hospital, Palmerston North

This presentation outlines the use of intravenous anti-D immunoglobulin as a last desperate attempt to increase platelet counts in a patient with ITP.

A Long Slow ABO
by Robyn Mardell
Blood Bank, Wellington Hospital, Wellington

The presentation is a description of Blood Bank's response to a shark attack.

Crossmatching Under Fire
by Tareq Mustafa
Blood Bank, Napier Hospital, Napier

How we dealt with trauma cases during the Gulf War.

Double Trouble
by Richelle Roxburgh
Transfusion Medicine, Christchurch Hospital, Christchurch

An interesting case of neonatal alloimmune thrombocytopenia.

Washed Platelets
by Andrew Mills
Waikato Blood Service, Hamilton

Is it Neonatal Alloimmune Thrombocytopenia or Congenital Cytomegalovirus?

It's A Matter of Direction
by Jaqui Jones
Auckland Regional Blood Service, Auckland Hospital, Auckland

The Auckland Regional Blood Service has a policy of not performing directed transfusions. This presentation looks at the definition of 'Directed Transfusion' and presents a case study where an exception to this policy was made.

Transfusion Related Lung Injury
by Helen Muir
Blood Bank, Dunedin Hospital, Dunedin

Transfusion Related Lung Injury (TRALI) is a neglected, rare and serious complication of transfusion. It is primarily associated with leucoagglutinating neutrophil or lymphocytoxic antibodies in donor plasma resulting in acute respiratory insufficiency. TRALI should be considered in the differential diagnosis of pulmonary edema following transfusion of blood or blood products.

HTLV - 18 Months of Testing
by Denise Hoare
Wellington Blood Service, Wellington Hospital, Wellington

A brief review of 18 months of HTLV-1 testing at Wellington Blood Service.

The Way We Were
by Diane Matheson
Blood Bank, Rotorua Hospital, Rotorua

A brief look at some of the changes that have occurred over the years in blood donation.

Reflections on the 1997-1998 Year
by Leonie Robinson
Auckland Regional Blood Service, Auckland Hospital, Auckland

The presentation reports the activities of the CSL Agency and Stores Department for the past year.

Public To Private – A Time For Change
by Heather Henshaw
Blood Bank, Timaru Hospital Timaru

A review of the past year at the Timaru Hospital Blood Bank as we became part of a private laboratory. What we did before and what we do now.

The Price of Progress
by Ray Scott
Auckland Regional Blood Service, Auckland Hospital, Auckland

Transfusion Medicine is firmly based on a clinical and technical platform which has evolved since the first attempt to transfuse blood to humans. The current level of knowledge and practice has only been achieved by the constant efforts of workers in the field investigating unexplained events and developing new and improved techniques. Over the years New Zealanders have contributed to the advancement of Transfusion Medicine as a result of research and development carried out within the service. With the establishment of the New Zealand Blood Service, there exists both risks and opportunities for ongoing research and development which have potential effects on both operational capability and staff development. This paper focuses on the approach to research and development for the future.

Transportation – Will It Be Possible?
by Peter Webster
Blood Bank, Wairau Hospital, Blenheim

The National Blood Service Establishment committee made several statements about the centralisation of blood processing. The implication is that blood donations and blood components will need to be transported across New Zealand much more than is presently done. This presentation points out some of the practical difficulties.

Valuable Nuisance
by Walter Wilson
Blood Transfusion Trust, Wellington

With the restructuring of the blood services to be undertaken from 1 July 1998 it is timely to review the role and impact of the Blood Transfusion Trust over the last five years. Has it added value or merely been a nuisance?

A Rose By Any Other Name
by Iris Lee
Wellington Blood Service, Wellington Hospital, Wellington

A brief report on three types of blood bags used by the Wellington Blood Service during the last year, namely those produced by Tuta, Baxter and N.P.B.I. This overview will deal with bag configurations, relative advantages and differences in labelling.

Process Control and Problem Solving – Donor Haemoglobin Levels
by Jill Faulkner
Auckland Regional Blood Service, Auckland Hospital, Auckland

It was noted that the Blood Not Taken (BNT) deferrals for low haemoglobin increased from 18-25% of total for July-November 1997 to 30 and 33% for December 1997 and january 1998. We needed to find out why.

Validation of the MCS Plus
by Devinder Bange

Plateletpheresis: Procedures involved with the validation of a new product.

Pick Or Mix
by Mark Bevan
Transfusion Medicine, Palmerston North Hospital, Palmerston North

This presentation will discuss whether ABO compatible platelets results in better platelet increments than those which are mis-matched.

Terumo Sterile Tube Welder
by Julie Clark
Waikato Blood Service, Hamilton

Why we have one, when we use it, benefits to our lab and explanation of how it works.

Quality to the Bloody End – Selection of Blood Giving Sets
by Margaret Dickinson
Auckland Regional Blood Service, Auckland Hospital, Auckland

Intermittent reports of blood units leaking from around the bag ports during administration of blood had been received by Blood Bank staff at our major hospitals. A request to nursing and medical staff at one hospital to report all problems relating to leaking blood bags resulted in a significantly increased rate of reporting. Blood Units, some with giving sets attached, were returned to the QC laboratory for examination. Investigation revealed that use of a wide range of giving sets throughout the Auckland and Northland regions with one type being implicated in spiking blood bags during insertion. There are published Australian Standards for Blood Bags and Infusion Sets. While the majority of giving sets examined conformed to the standards, performance problems were demonstrated during validation trials.

Can't Beat The Real Thing
by Carlene Ray
Transfusion Medicine, Palmerston North Hospital, Palmerston North

Blood Substitutes: What are they and why do we need them?

Liver Transplantation
by Gerri Heta
Blood Bank, Auckland Hospital, Auckland

The first liver transplant was performed in Colorado, USA, in 1963. Twenty-three years later, in 1986, the first New Zealander to receive a liver transplant travelled to the USA for the operation, and more recently locals requiring a liver transplant had to travel to Australia for the operation. Last year several of the CHEs applied to the Regional Health Authority to perform liver transplants in New Zealand. The contract was awarded to A+, Auckland Healthcare, and since February three liver transplants have been successfully carried out at Auckland Hospital. My paper discusses the criteria for donor and recipient selection, the role of the transplant coordinator, and case studies of the first three liver transplants.

Fibrinogen In Cryoprecipitate
by Suzanne Williams
Blood Bank, Dunedin Hospital, Dunedin

Three products are produced for their fibrinogen content:
- High Fibrinogen Plasma
- Conditioned Cryoprecipitate
- Fibrin Glue

Questions answered:
- How do we select the donors or donations?
- Who uses these products?
- How many units do we use each year?
- Have we improved the fibrinogen content in these products?

Bioassay Bloopers
by Karen Webber
Auckland Regional Blood Service, Auckland Hospital, Auckland

Bioassay systems are inherently delicate and fragile; however with a little TLC, robust, reproducible results can be obtained which give a fair and reliable account of the current state of the product through Factor VIII assay.

Microaggregates in Blood Donations
by Lynette Boden
Waikato Blood Service, Hamilton

Initiation of an investigation into clots in red cell units. A review of the process begun as a result of a product complaint form.

Microaggregates in Blood Donations
by Gerri Jones
Waikato Blood Service, Hamilton

Latest findings in our clot project. A summary of our latest round of testing in the on-going project.

Potassium Levels In Red Cell Units
by Gill Morley
Blood Bank, Napier Hospital, Napier

Napier Blood Bank were having problems with high potassium levels in red cell units. This presentation outlines the strategies used to address the problem.

Measurement of Potassium in Red Cells
by Viv Quayle
Auckland Regional Blood Service, Auckland Hospital, Auckland

Theory of the ISE (Ion Specific Electrode) in brief. A look at technical and QC problems related to measurement of potassium levels found in Resuspended Red Cells on expiry.

Platelet Predicament
by Nick Page
The manufacture of platelets is proving to be a major headache in terms of quality control results. A difficult problem is presented for discussion.

Sealed with the "KISS"
by Raewyn Cameron
Blood Bank, Rotorua Hospital, Rotorua

The KISS theory is often the best way to solve problems. A red cell quality control problem and the "KISS" that solved it are presented.

Blood On The Web
by Simon Benson
Transfusion Medicine, Middlemore Hospital, Auckland

The days of laboriously searching through piles of dusty books and journals for information have all but long gone. In the late 1990s it is now possible to harness a vast global network, virtually a spiders web, of computers via the Internet. At the push of a button (or two) access is available to an almost infinite treasure trove of information, all without ever having to leave your PC... Delving into cyberspace for a wander along the information superhighway, the following is a journey around the world via a selection of websites associated with blood and blood transfusion.

Please Release Me
by Sharon Sims
Transfusion Medicine, Palmerston North Hospital, Palmerston North

This presentation outlines the use of a Microsoft Access database developed in-house for the dispatch of plasma to CSL.

Blood Labelling Protocol
by Irene Wallmansberger
Medlab Bay of Plenty, Tauranga

Lumudae, Boyd, Ness show that strict enforcement of minimal labelling requirements is effective in reducing erroneous blood grouping, lessening the likelihood of transfusing "out-of group" blood components. A brief review of this article.

Leucodepletion: The Full Circle
by Carole Watson
Auckland Regional Blood Service, Auckland Hospital, Auckland

We are all aware of the many benefits of removing leucocytes from blood components for transfusion. From April 1998 the Auckland Regional Blood Service will be offering clinicians pre-storage laboratory filtered resuspended red cells. Auckland Centre was laboratory filtering red cells till 1990, the procedure was invasive, needed priming, time consuming and the final product had a shelf life of twelve hours. At about this time improved filters designed to be used at the bedside were introduced. Questions have now been raised whether bedside filtering is as good as was first thought. Improved filters, manufactured in-line with blood packs, sterile welders means that units can be filtered in the laboratory without invasive techniques and stored as normal red cells with a normal shelf life. My short talk will tell the reasons why we introduced this product, the validation we undertook, and the type of filter we decided to use.

Pressed For Time
by Lyn McMillan
Transfusion Medicine, Christchurch Hospital, Christchurch

A brief encounter with an automated blood processor. Quality, quantity, timeliness. Man versus Machine.

Managing Performance
by Heather Richards
Auckland Regional Blood Service, Auckland Hospital, Auckland

Performance Management is based on a number of simple premises, whether it be the individual, the unit, or the total organisation.

- People work more effectively if they know what they are expected to do and can determine how well they have done.
- People are more likely to achieve desired results if they have been involved in establishing outcomes.
- Agreement about expected performance and the extent of achievement is more easily established if people understand and can track how their performance is to be measured.
- People are more motivated to achieve results which they feel are important and feasible.
- People expect to be rewarded adequately for their contribution.

Performance indicators are discussed and as management tools could become part of management strategy.

Two Most Important Words – Thank You
by Les Milligan
Blood Bank, Dunedin Hospital, Dunedin

Why was the colour escort marching out of step... Who unplugged the choir's sound system... What did Emcee say... Why were Kayla and Khayla laughing... Why were some people around us crying... Was this the end or the final goodbye?

Red Cell Antibody Testing
by Shabina Shankar
Medlab, Auckland

Due to moving to a new laboratory, loss of equipment (cell washer which was well past its expiry date) and a shortage of staff we were forced to change our antibody screening method for our antenatal work to one that gave us reliable answers and was also less time consuming. Thus the ficin Duet cell system was introduced.

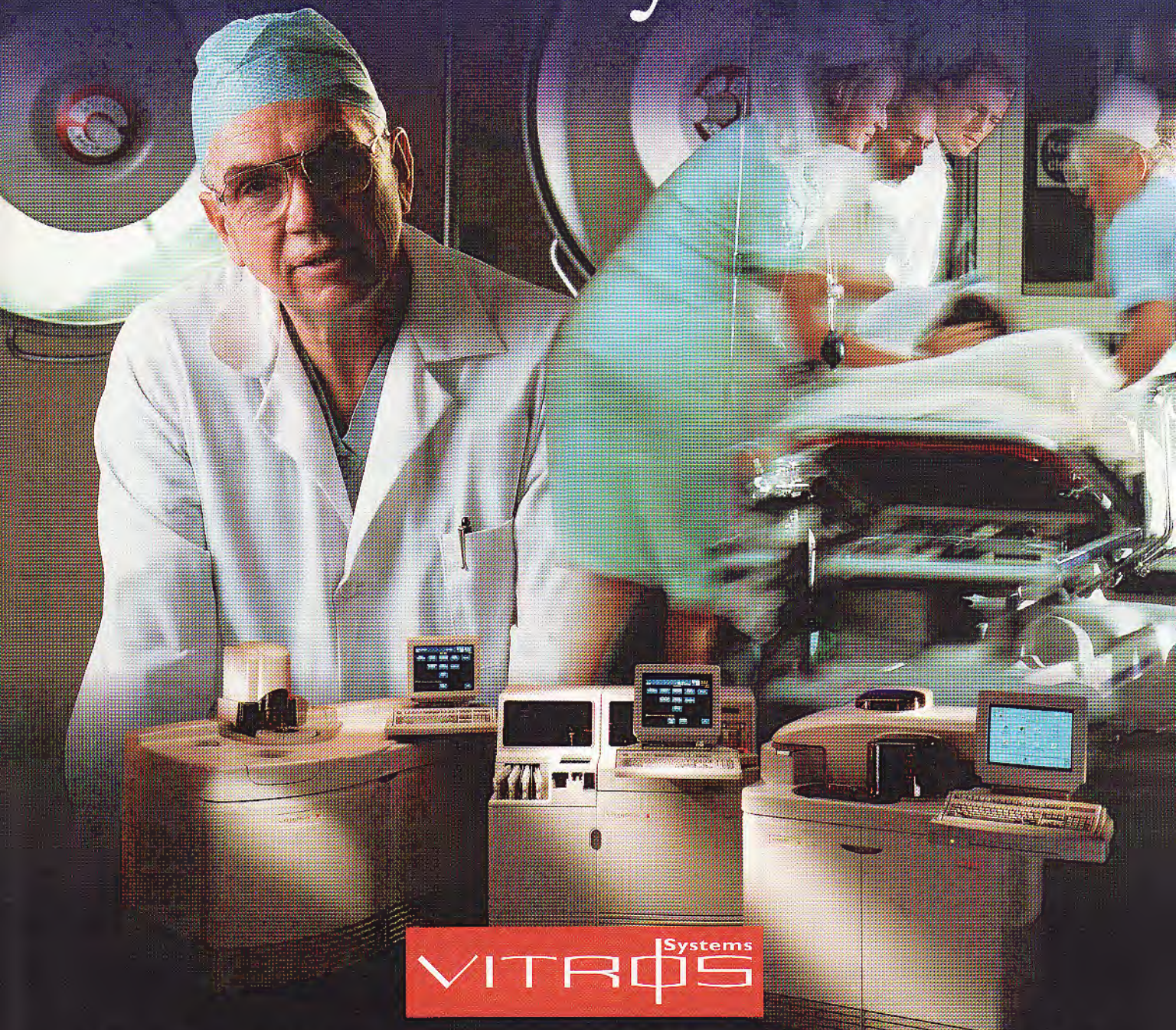
To Be or Not to Be – Enzyme Testing the Clinical Perspective
by Mike Guerts
Blood Bank, Waikato Hospital, Waikato

The clinical considerations that led to the decision whether to continue enzyme testing for routine antibody screening at Waikato Hospital Blood Bank.

To Be or Not To Be – Enzyme Testing the Management Perspective
by Anne Burnand
Blood Bank, Waikato Hospital, Waikato

The management considerations that led to the decision whether to continue enzyme testing for routine antibody screening at Waikato Hospital Blood Bank.

"Time is on your side"



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white cell contamination levels. Discussions revealed a wide variety of protocols are implemented nationally. Every centrifuge requires careful product quality monitoring as a number of factors including load and maintenance affect centrifuge performance significantly.

Blood is temperature labile, transportation and storage specifications for blood and blood products are rigorous and well defined. With Auckland Regional Blood Service generating in excess of 100,000 transportation movements annually, many by external contractors, or non blood bank staff hospital, systems are under development to monitor compliance to temperature specifications. Escort data loggers have proven to be very useful tools, however, cost allows only random sampling of storage and transportation. A project to evaluate the use of 'Temperature tags', single use temperature sensitive wax indicator strips, is under way ARBS. Available in several temperature ranges these tags may provide a cost effective quality assurance tool for detecting temperature non conformances.

Canterbury Health have evaluated the use of hard shell Chilly Bins for transport of blood units. Compared to the polystyrene blood boxes in use there was no improvement in performance.

The resolution of transportation problems will need early attention from the NBS.

CSL, again the generous sponsors of the Quality Forum, took the opportunity to present their request for a change from the use of the Complement Fixation Test for designation of Zoster Hyperimmune Units to an EIA Method. Greg Cooper showed time per test and sensitivity advantages of EIA. CSL have a standard available for use in EIA screening. Strategies to obtain Zoster Hyperimmune plasma in a cost effective manner were discussed.

The afternoon continued, after a break to replenish caffeine and sugar levels, with a report on the evaluation of the Compomat blood processing system in Wellington. Iris then ventured into the rather controversial area of red cell unit labelling. There are now a number of bag manufacturers keen to enter the market. All agreed that the present standard of labelling blood units and blood products was in need of review urgently:- a high priority for NBS?

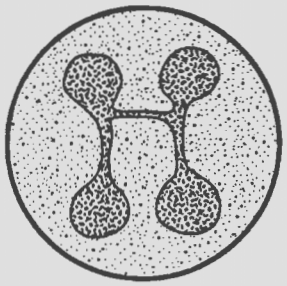
Waikato reported on the continuing saga of clots in red cell units. Although some changes have been made since their initial report in October 1997, the goal of reducing the incidence of clots in red cell units at expiry, to 3% remains elusive. Several centres, prompted by the earlier report, to examine their red cell units for clots have confirmed the Waikato findings but have also been unable to resolve the problem.

The final presentation was 'Supplier Relations' a paper written by Lorraine Rimmer, and presented by Ray Scott, ARBS. A reminder that we are both suppliers and customers. Trust and information sharing are as important as cost and timely supply.

Lunch was great, the discussions lively and the network renewed. Many thanks to CSL, (Greg Cooper, Roger Hyde and Catherine White), for your generous sponsorship and the NICE Weekend Committee for your support.

All participants are keen to continue these meetings as a forum for sharing ideas and developing a team approach to resolving quality problems.

Margaret Dickinson
Auckland Regional Blood Service



Answers to Journal Based Questionnaire from May Journal (Polycythemia)

1. T
2. T
3. T
4. F PV with a normal karotype can progress to acute leukaemia
5. T
6. F Only occurs in females
7. T
8. T
9. T
10. F Independent
11. F
12. T
13. F
14. F Hypersensitive
15. T
16. T
17. T
18. T
19. T

Haematology Self-Assessment Journal Reading for MOLS
Questionnaire prepared by Simon Jones using True/False format
Reference article: Laboratory Assays For Von Willebrand Factor – Relative Contribution To The Diagnosis Of von Willegrand's Disease
Authors: EJ Favaloro and J Koutts
Journal: Pathology (1997), 29, pp 385-391

Please circle your choice of correct answer

1. The vWF:Ag assay is a functional assay — True False
2. The vWF:CBA assay detects only highly adhesive vWF — True False
3. vWD is now recognised to be the most common inherited bleeding disorder — True False
4. It is unimportant to differentiate type 1 from type 2 disease — True False
5. Type 2M variants show increased platelet dependent function — True False
6. Type 2N variants show a markedly decreased affinity for FVIII:c — True False
7. Many type 2 variants have absolute plasma vWF levels that fall within the normal reference range — True False
8. The vWF:RiCof has the tightest assay precision of the vWD screening tests — True False
9. Type 2A vWD have high vWF:Ag to vWF:CBA ratio — True False
10. Type 2N vWD have high vWF;Ag to vWF:CBA ratio — True False
11. Assays should be repeated at least once to confirm any perceived abnormality — True False
12. Estrogen levels can affect vWF levels — True False
13. Type 2A vWD display RIPA with low dose Ristocetin — True False
14. Filtered plasma is suitable for vWF assays — True False
15. An assay for FVIII:c should be performed on patients suspected of having vWD — True False
16. No single test procedure is sufficiently robust to permit detection of all vWD variants — True False
17. The vWF:Multimer assay is technically complicated and very time consuming — True False
18. In type 1 vWD the vWF is qualitatively normal — True False
19. In Pseudo vWD all multimers are present — True False
20. In type 3 vWD all multimers are absent — True False

A copy of this article can be obtained by contacting Simon Jones Haematology Department, Diagnostic Laboratory, Auckland. ph: 09 357 4100 ext 251 fax: 09 357 4128

New Products and Services

Sophisticated Glassware Washers at Reasonable Prices

Have you ever thought it would be nice to have a laboratory glassware washer but the price is beyond your budget. Well now there are Gallay Australia glassware washers available in New Zealand which offer all the sophisticated features of more expensive washers at a very reasonable price.

Calibre TecDiv, who also sell smeg glassware washers, have recently introduced these glassware washers in New Zealand to fulfil the laboratory need for reasonably priced glassware washers. Gallay Australia washers have a high quality European chassis fitted with a superb Australian-made microprocessor control unit which has four standard wash programs. The microprocessor allows the storage of another five custom wash programs to suit your requirements.

Other features these washers offer include stainless steel construction; hot, cold and distilled water choice; heat and sound installation; the option of fan or convection drying; fault alarms with screen messages, and automatic detergent dispersion. Such features ensure a reliable and consistent cleaning and decontamination process of glassware while preventing unnecessary damage to glassware and the costs associated with replacement.

If you would like to know more about these glassware washers please freephone 0800-4-CALIBRE (0800-4225-4273).

A New Means of Safety Storage

A common problem for many laboratories is the need for safe storage of chemicals and other flammable substances. Often legal regulations specify the need for such storage. To satisfy demand Calibre TecDiv have extended their range of affordable, quality safety products to include Trafalgar flammable liquid storage cabinets. These cabinets comply with the AS1940 Australian standard and the manufactured is endorsed to ISO9002.

Benefits of Trafalgar storage cabinets include: self-closing doors, a multi point security locking system to ensure access to particular chemicals is restricted, reinforced shelving for extra strength, compatibility with all standard container sizes, a range of cabinet sizes and capacities to suit your organisation, and easy attachment to external ventilation. Calibre TecDiv offer ventilation systems compatible with these storage cabinets.

The Trafalgar storage cabinet, doors and roof are made from double skinned steel panels. This provides 40mm insulating air space for a fire resistant construction. Ask about custom options also available.

To find out more about this well-established Australian brand of storage cabinet freephone 0800-4-CALIBRE (0800-4225-4273).

Merger Creates World's Premier Diagnostics Organisation

The merger of the diagnostics businesses of Boehringer Mannheim and Roche, two of the most successful healthcare companies in the world, heralds a new era in diagnostics.

Operating under the name Roche Diagnostics, the company becomes the premier organisation in the global diagnostics market, with its extensive portfolio of innovative products and services, and leading edge technologies.

In the New Zealand diagnostic market, the merger brings together Boehringer Mannheim and Roche under the new name, Roche Diagnostics New Zealand.

"The strengths which our respective customers already know – especially in regard to technological expertise and innovation – will become even stronger as a result of this merger," said Graham Watt, Managing Director, Roche Diagnostics New Zealand.

"In particular, the breadth and depth of technology now accessible to New Zealand has been greatly expanded."

Commenting on the service standards available to customers, Mr Watt said that these too are enhanced by the merger.

"A pillar of our business vision is what we call 'customer delight' whereby we recognise that, whatever we do, we do it for our customers. This means continually striving for excellence, listening to our customers and focusing on their needs in order to support them better," he said.

Customers of Roche Diagnostics New Zealand will be serviced from the former Boehringer Mannheim premises at 15 Rakino Way, Mt Wellington, Auckland. The premises include in-house laboratory facilities and a full service department, as well as training and resource facilities for customers.

"The quality of our products, services, facilities, and the expertise of our people will continue to be readily available to our customers in New Zealand, the only difference being that now we have even more to offer," said Mr Watt.

Mr Watt added that renowned people in their field, notably Ross Hewett, Laboratory Systems Division Manager, and Sue Wright, Patient Care Division Manager, remain with the new, expanded company and shared his view that the merger has significant benefits for healthcare in New Zealand.

"The future is even more exciting as we add to our existing strengths and utilise the access we now have to help healthcare providers prove the power of diagnostics to reduce costs and increase efficiency of health management in this country."

For more information contact
Graham Watt
Managing Director
Roche Diagnostics New Zealand
Telephone 0-9-276 4157
Facsimile 0-9-276 8917

Chromosome analysis for Windows 32 bit

MetaSystems' chromosome analysis solutions are now available for the Windows 32 bit platform (WindowsNT/95). The software makes full use of the benefits of the most widely used software environment, such as: hardware independence, extensive networking capabilities for local area networks as well as remote communication, multi processing capability, and more. The new program generation opens a new chapter in MetaSystems 12 year successful history as a systems provider for automated cytogenetics without sacrificing the product continuity: update solutions for earlier installed systems are offered at marginal cost.

Ikaros, the automatic karyotyping system for brightfield and fluorescence includes flexible data base functions, specific user and staining configurations, a flexible metaphase analysis tool, modem safety concepts, and integrated archiving management. Ikaros supports various karyotype forms, ideograms, and training capability of automatic banding classifiers, for human as well as for non-human species.

The FISH imaging system isis provides the most advanced analysis features for multi colour FISH (mFISH) analysis. Its self-training colour classification adapts automatically to combinatorial as well as to ratio DNA supported. The analysis for complex chromosome rearrangements is greatly facilitated by the unique differential colour highlighting and point-and-identify features. With its flexible analysis approach MetaSystem' mFISH solution is ideally prepared to future

developments in multi colour/multi probe FISH technology.

Ikaros and isis can be combined with a range of different cameras, including cooled video rate CCDs and high resolution cooled digital cameras. In combination with appropriate microscope hardware several microscope functions are automated by the software: import of microscope stage coordinates at image capture, change of fluorescence filter cubes, change of excitation filters and emission filters, light shutter, and focus control for extended focus image generation.

MetaSystems' automatic scanning systems are based on the new generation of motorised Zeiss microscopes. The automatic metaphase finder metafer for transmitted light and fluorescence scanning is worldwide unique with its speed and reliability. User trainable classifiers, a reliable autofocus algorithm, precise centred metaphase relocation, and fash gallery evaluation are some of the most important features. Other metafer-based solutions are available for automatic spot scanning for interphase FISH applications and rare event detection, e.g. screening a large population of cells to find a small fraction of fluorescently stained objects with applications like assessment of minimum residual disease in tumour diagnostic.

For more information please contact:

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Abbott Launches New Test for Cardiovascular Risk Marker

The first automated test to measure blood levels of homocysteine, considered an important new predictor of cardiovascular risk, is now readily available in New Zealand from Abbott Diagnostics.

For years, cardiac research has focused on measuring the lipid-related risk factors, including cholesterol, LDL, HDL, and triglycerides, assuming we were getting a complete picture of cardiac risk. But a significant portion of heart attack patients don't exhibit these risk factors, says Dr Per Magnes Ueland of the University of Bergen in Norway.

"Elevated homocysteine appears to confer an independent risk similar to elevated cholesterol level. So, the introduction of an automated assay should help us improve our efforts to identify patients at risk for cardiovascular disease."

In a review of 27 clinical studies, including more than 4000 patients, researchers estimated that a modest increase in homocysteine conferred a risk of coronary artery disease similar to that associated with modest increase in cholesterol.

Until now, measurement of homocysteine levels was performed on a very limited basis because it was a labour-intensive process, requiring highly skilled laboratory personnel. Abbott's automated test, which will run on the company's IMx system, will support further research by offering a consistent, standardised assay, as well as significantly increasing the availability of homocysteine testing for the general public.

Abbott's IMx systems are standard in virtually all hospital and private testing laboratories in New Zealand.

The Abbott Homocysteine assay is a fluorescence polarisation immunoassay for the quantitative measurement of total L-homocysteine in human serum or plasma. The assay was developed and will be manufactured for Abbott by Axis Biochemicals ASA, of Oslo , Norway.

Further information can be obtained from testing laboratories and from Abbott Diagnostics Division.

For further information contact Mr Brian Hanrahan, Abbott Diagnostics Division, Ph (09) 573 6030, or Blair Harkness, Ph (09) 817 7515, or 021 735 651, Fax (09) 817 2412, e-mail blair@iconz.co.nz.

New Zealand Blood Service Officially Starts Up

The separate and fragmented hospital based system for supplying blood services and blood products across the country has been replaced by the single structure of the New Zealand Blood Service.

From 1 July, the NZBS is responsible for the nation's entire blood service. The Auckland, Wellington and Christchurch blood centres will immediately come under NZBS direct management, and NZBS will continue to contract with other blood centres/hospitals until they are brought into the system over the next two-three years.

To most people outside the blood service, the 1 July changes will be 'invisible,' but some improvements should be noticed early on, NZBS will provide all blood and blood services that clinicians and patients need.

The creation of NZBS is a significant step in the evolution of our nation's blood service, and in many ways manifests changes recommended by the landmark 1996 Carter Marshall report. In the latter years of this century and beyond, it is the quality of blood and the blood service that is the single most important determinant of health and welfare among recipients of blood products.

Dr John Carter and Keith Marshall said that problems in the New Zealand blood sector stemmed from a single underlying theme – there has been "no clear responsibility for ensuring strategic direction nor for the effective and efficient management of the blood sector."

The New Zealand Blood Service is the unified structure chosen to address quality and long term strategy, working with the nations blood sector professionals. The national service is devoted to providing blood, blood products and clinical advice accountability.

"Our job is to take what, by world standards, is a good blood service to the best-in-world service," said NZBS CEO, Dr Robin Pratt. "Countries like Scotland, Canada and Finland are already well down this path, and Australia is part way through the change."

Ways the NZBS plans to improve the service include:

- establishing national protocols for gathering, processing and redistribution of blood and blood products
- creating an IS system that, over the next three years, unites locations across the country to improve the management of blood products and to better share the blood that all New Zealanders need
- setting and managing a clear strategic direction to ensure ongoing improvement through a commitment to best practices and international benchmarking
- ensuring the safest possible blood service to all New Zealanders

"In the time that I have been working on the changeover with the National Blood Service Establishment Team, travelling throughout the country and meeting with dozens of people, I have been impressed with the expertise and a can-do attitude that is constant throughout the sector. I genuinely believe that people in the sector are thrilled with the opportunity to make the service a world leader, and I have found considerable support from all groups in the blood industry," said Dr Pratt.

For further information, please contact:
Dr Robin Pratt
Chief Executive Officer
New Zealand Blood Service
09 638 7800

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Please address all correspondence to the Executive Officer, including Examination and Membership enquiries.

Editor
Rob Siebers
Dept. of Medicine, Wellington
School of Medicine, P.O. Box 7343
Wellington South.
E-Mail:rob@wnmeds.ac.nz

Membership Fees and Enquiries
Membership fees for the year beginning April 1, 1998 are:

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Members wishing to receive their publications by airmail should contact the Editor to make the necessary arrangement.

Report of the N.Z. Medical Laboratory Science Trust

At the annual general meeting of the New Zealand Medical Laboratory Science Trust (NZMLST) held on the 25th January 1998 a letter from the council of the New Zealand Institute of Medical Laboratory Science (NZIMLS) was received. The letter went on to say; "it was the feeling of Council that the current state of the NZ health sector that the objectives outlined in the Deed of the NZMLST were, in its opinion no longer achievable". It was further noted that the role of the Trust had been mainly one of distribution of money and that the recent decision by the Trust's major source of income to withdraw its annual contribution meant it was time to consider 'winding up' of the Trust. It was suggested by Council that the NZMLST should continue to distribute the remaining monies held, and that once this had been accomplished the Trust should cease its activities pending any major changes or developments. The suggested timeframe for this to occur should not exceed a period of three years".

In reply the MLS Trust wrote to the NZIMLS council:

"The MLS Trust agrees with the council of the NZIMLS that the Trust should be wound up. The Board of the Trust would attempt to have this done by the 31st December, 2000 after the resolution of a number of legal requirements".

The MLS Trust therefore invites applications from members of the NZIMLS who require financial assistance to attend a relevant scientific meeting or to assist with career development. Applications should be made on the forms which are available through the Chairman of the Trust who can be contacted by writing to:

Mr. Colvin Campbell
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Reef Fish on My Plate
Bullumakau

Bullumakau's information from England informs him that Monica Cheesbrough books, Medical Laboratory Manual for Tropical Countries Vols I and II are out of print and will not be reprinted. However, Monica has a new publication, District Laboratory Practice in Tropical Countries Vol I which should be available in July and Vol II sometime later. Vol I covers parasitology, clinical chemistry, equipment, organisation and management.

For those Pacific laboratories that are up with the modern advances of technology we report that the PPTC is now connected up with Email and can be contacted at the following address – pptc@clear.net.nz.

Dolo Sigabalavu, the well respected and loved Laboratory Superintendent of the Colonial War Memorial Hospital in Suva was spotted by my spies sitting in the Wanganui Hospital (New Zealand) cafeteria eating home made cheese sandwiches and not a cream cake in sight.

The second issue of the Rarotonga Hospital Labnews has been published. This small laboratory is complimented for taking the initiative of producing a regular newsletter. Come on the rest of the Pacific get your editorial and reporter groups together and produce your own newsletter. How about the Kiribati Lab Update (KLU) or the Solomons Pathology Circular (SPC) or even the Marshalls Medlab Media (MMM).

The recent outbreak of dengue fever in Fiji took eight lives and has resulted in more stringent vector controls. The mosquito involved bites during the day and breeds in clean stagnant water. Bullumakau thinks that the answer for him may be to only get bitten at night and allow only dirty running water near the house. If you have water tanks then perhaps stirring the water vigorously with a big paddle might discourage the larvae.

If all of the world's population could be shrunk into a village of exactly 100 people – with all the current human statistics remaining the same – it would look like this;

- There would be 57 Asians, 21 Europeans, 14 from the western hemisphere, 8 Africans.
- 51 would be male and 49 female;
- 70 would be non-white, 30 white;
- 50% of the world's wealth would be in 6 people's hands – with all six coming from he United States;
- 80 would live in substandard housing;
- 70 would be unable to read;
- 50 would suffer from malnutrition;
- One would be near birth and one would be near death;
- Only one would have a university education;
- No one would own a computer.

The drought situation in many Pacific countries brought about by El Nino has highlighted not only the lack of water but also the very poor quality of the water. This has an effect not only on the islanders themselves but also on the image that this portrays to the outside world. Tourists demand that the water they drink will not make them ill. Perhaps lab techs need more training in water testing and the authorities need more training in how to respond to the laboratory findings.

Bullumakau asks why are there no Polynesian marathon runners? Well according to All Black trainer, Jim Blair, the Polynesians have a higher proportion of fast twitch muscle fibre which is the reason for their speed over short distances.

Bullumakau has just been reading the latest HIV/AIDS statistics for New Zealand and it seems that more women are being diagnosed with HIV infection. From 1992 to 1997 89 females have been diagnosed, 70 were believed to have been hetrosexually infected and of these the risk categories for 45 are known. 32 were from parts of the world where heterosexual transmission is common and 13 were known to have had contact with men or injecting drug users from those areas. Thus infection among immigrants or visitors is a major factor associated with HIV infection among women in New Zealand.

Now Bullumakau knows what the acronym USA stands for but after reading the latest News Notes from APLAC (Asia Pacific Laboratory Accreditation Cooperation) he is totally confused. This newsletter which is four pages long has used 67 acronyms or abbreviations. Now I know that many of these are repeated in the newsletter but trying to remember what they mean really gets my GOAT. Remember the old days when every second utterance from a haematologist was an acronym — WBC, RBC, ESR, PCV and on it went. And what does GOAT stand for – well how about Garbage Official Acronym Terminology.

Pacific Profile

Name: Vavaetaearoi Vaevae Pare

Present Position: Medical Laboratory Manager
Ministry of Health
Rarotonga
Cook Islands

Training and Qualification: Commenced work at the hospital laboratory, 1965.
Became Permanent Staff, 1966.
Graduated with Cook Islands Medical Laboratory Technician Certificate, 1968.
Acting Technologist In-Charge at laboratory, 1985.
Officer In-Charge Medical Laboratory, 1991.
Attendance at many workshops and training courses both at home and abroad.

Main interests in laboratory work: Microbiology and parasitology and latterly quality management.

Highlight of my career: Starting as a laboratory cleaner in 1965 and progressing to Laboratory Manager in 1996. This position has until 1985 always been held by an expatriate. A major achievement has been the introduction of a Laboratory Quality Assurance Project, established on the Q-Base Code and we aim to be the first laboratory in the Pacific to be certificated.

What are the main difficulties facing medical laboratory work in the Cook Islands? The major difficulty is to provide a modern laboratory service to the people of the Cooks within the difficult financial situation that always exists in small island nations. The distance we are from the sources of equipment and instrument repair expertise means that we have to develop the ability to become self-reliant. We are greatly indebted to support organisations such as the WHO, NZODA, PPTC, Red Cross and commercial firms for past assistance.

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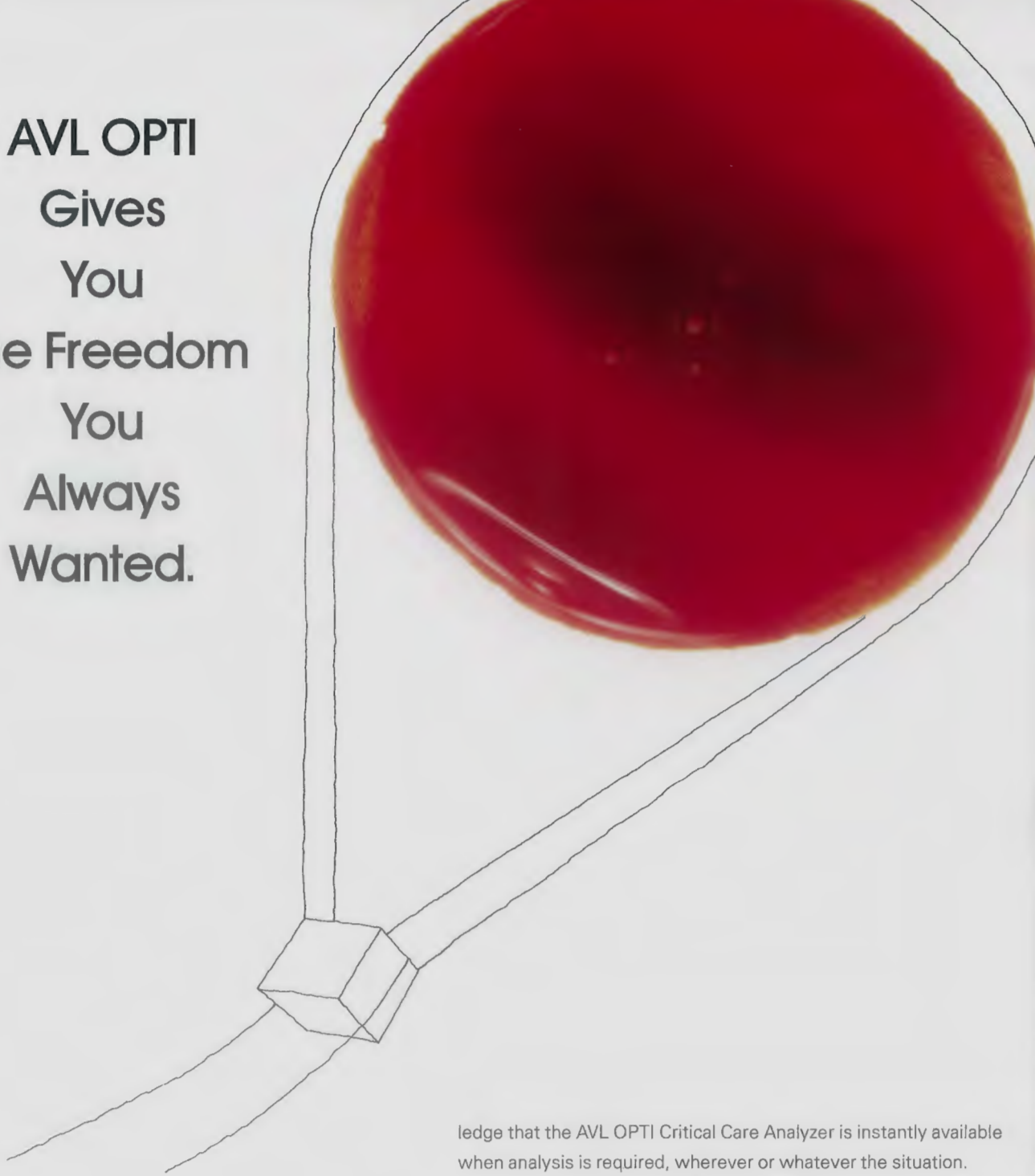

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