MEETING OF
THE BRITISH TRANSPLANTATION SOCIETY

15th October, 1975

THE WELLCOME BUILDING, EUSTON ROAD, LONDON

9.45 a.m. **J. E. Castro, N. Mustapha, A. D. Mee and R. Shackman** *(Urology & Transplant Unit, Royal Postgraduate Medical School, London):*

"Ileal urinary diversion in patients with renal transplants."

10.05 a.m. **G. Williams and J. E. Castro** *(Urology & Transplant Unit, Royal Postgraduate Medical School, London):*

"Eye complications of dialysis and transplantation."

10.25 a.m. **A. A. Diamandopoulos, D. N. Hamilton and J. D. Briggs** *(Renal Unit, Western Infirmary, Glasgow):*

"Delayed hypersensitivity reactions in vivo in uraemic, dialysis and transplanted patients."

10.40 a.m. **J. J. van Rood, G. G. Persijn, J. P. van Hooff, G. F. J. Hendriks, M. W. Kalff and A. E. van Poelgeest** *(Dept. Immunohaematology, Dept. Nephrology, University Hospital, Leiden):*

"The influence of blood transfusion and HL-A matching on kidney graft prognosis."

10.50 a.m. **H. Festenstein, A. M. I. Paris and J. A. Sachs** *(Tissue Immunology Unit, London Hospital Medical College, London):*

"Effect of pre-transplant blood transfusions and other factors on cadaver kidney transplants."

11.10 a.m. Coffee

11.30 a.m. **R. A. Selis** *(Renal Transplant Unit, Liverpool Royal Infirmary, Liverpool):*

"Is renal transplantation justifiable in patients without previous dialysis?"

11.50 a.m. **B. A. Bradley, M. Sheehy, J. J. Keuning, A. Termijtelen and J. J. van Rood** *(Dept. Immunohaematology, University Hospital, Leiden):*

"The specificity of secondary mixed lymphocyte reactions."

12.10 p.m. **K. I. Welsh and H. Burgos** *(McIndoe Research Unit, Queen Victoria Hospital, East Grinstead):*

"F1 animals undergoing 'GVH' produce killer cells which lyse all nucleated target cells."

12.30 p.m. **G. M. Stirrat** *(Departments of Obstetrics and Immunology, St. Mary's Hospital Medical School, London):*

"A terminal-labelling microcytotoxicity assay and its application to a study of the feto-maternal immunological relationship."

12.45 p.m. **J. N. Johnson and R. A. Sells** *(Renal Transplant Unit, Liverpool Royal Infirmary, Liverpool):*

"Standardisation of kidney clamping technique."

1.00 p.m. LUNCH

2.00 p.m. **BUSINESS MEETING OF THE SOCIETY**

2.30 p.m. **The shortage of organs for clinical transplantation: further action.**

3.00 p.m. **Workshop on "Mechanisms of Tissue Damage"**

Organised by **Dr. E. Simpson**, *Clinical Research Centre, Harrow.*

Chairman: **Dr. B. Herbertson,** *Cambridge.*

5.00 p.m. Close of Meeting.

FUTURE MEETINGS

21st April, 1976—joint Anglo-French Meeting in London.

Note. Members might like to be reminded that the **Autumn Meeting of the B.S.I.** will be held at the Royal College of Surgeons on October 16—17, commencing at 10 a.m.

ABSTRACTS (not for publication)

J. E. Castro, N. Mustapha, A. D. Mee and R. Shackman

Renal transplantation into an ileal urinary diversion has been used eight times in seven patients out of a consecutive series of 215 renal transplants. In five patients the diversion was required either because the bladder had been removed previously or there was a gross abnormality of the urinary outflow tract. In two patients it was successfully used to deal with difficult post-transplantation urinary fistulae.

Ureteric implantation was extraperitoneal and when the kidney was transplanted to the right side the conduit was brought transperitoneally to be sited in the left iliac fossa.

Five transplants have been successful and have functioned for at least two years. However, there were three deaths within two months and one at four months after renal transplantation. In two of these the loops were prepared definitively within six weeks of kidney transplantation but in the other two the loops had been constructed many years previously.

Systemic infection with organisms indistinguishable from those cultured from the ileal loop was a common complication and although other factors contributed to the mortality it is suggested that prophylactic antibacterial therapy should be instituted when kidney transplantation with ileal urinary diversion is undertaken.

G. Williams and J. E. Castro

Thirty eye conditions (excluding hypertensive retinopathy and refraction errors) in 21 out of a total of 215 patients accepted for replacement therapy for chronic renal failure have been studied. There were 13 males and 8 females ranging in age from 23—56 years. Sixteen of 198 Caucasians and 5 of 17 Asian/Africans had eye disorders. Two of them are now totally blind.

Of 9 patients complaining of red eyes, 6 had corneal calcification. Three with hypercalcaemia were treated by parathyroidectomy with good response. In 3 normocalcaemic patients the condition did not progress: 1 was untreated and 1 was given sodium editate eye drops. Three patients had red eyes without calcification; 2 with nonspecific irritation responded to topical prednisone and 1 with chronic iritis developed bilateral glaucoma.

Nine patients had posterior subcapsular cataracts; 6 were bilateral. Four developed cataracts before corticosteroid immunosuppression was started; 3 were associated with high doses of steroids and 2 were maintenance doses.

Two patients had herpetic keratitis; one was on dialysis and one recently transplanted. Both were treated with idoxuridine with good result. One patient had herpes simplex dendritic ulceration necessitating evisceration.

A. A. Diamandopolous, D. N. Hamilton and J. D. Briggs

To estimate the cell mediated immunity (C.M.I.) to uraemic patients before and after transplantation we used the dinitrochlorobenzene (D.N.C.B.) contact sensitivity test.

The patients were sensitised by the application on their forearm of an initial dose of D.N.C.B. The skin reaction was recorded after 1 and 2 weeks. 14 days later a recall dose of D.N.C.B. was applied to the other forearm and the reaction to this was estimated after 2 days. The reaction was scored on a scale from +0 to +20. The results were as follows:

Patients	Numbers	Average Skin Reaction
Normal	11	10.7 ±4.5
On Haemodialysis	60	2.79±2.4
Uraemic	20	2.32±2.30
Post Transplantation	18	0.97±0.92

From the 18 Post Transplantation patients 12 were tested before and after Transplantation

It is concluded that (a) the uraemic patients and the patients on R.D.T. have a statistically significant depressed C.M.I. as compared with the normal; (b) R.D.T. Slightly improves the C.M.I. and (c) the post transplantation patients have an even lower C.M.I., due to drug therapy.

J. J. van Rood, G. G. Persijn, J. P. van Hooff, G. F. J. Hendriks, M. W. Kalff and A. E. van Poelgeest

There is increasing agreement that HL-A matching will improve kidney graft prognosis significantly even if donor and recipient are unrelated. However for the individual patient it is often very difficult if not impossible to predict what the effect of HL-A matching will be.

Opelz et al. (Transpl. Proc. V: 253, 1973) have presented evidence that kidneys transplanted in patients which had received no blood transfusions at all had a very poor graft prognosis. Their findings have so far not been substantiated by others. We have analyzed the relation between HL-A matching, number of blood transfusions received and presence and specificity of leucocyte antibodies expressed in a simple formula and kidney graft prognosis in two groups of kidney graft recipients (41 and 120 patients respectively). It appears possible in this manner to select in over 80% of the cases the donor-recipient combinations with a good prognosis.

H. Festenstein, A. M. I. Paris and J. A. Sachs

1. Between March 1969 and February 1975 the London Transplant Group matched the distributed 501 cadaver kidneys. Of these, 230 (46%) were well matched i.e. "4" or "3" HL-A antigens in common with the recipient. Actuarial survival curves reinforces our earlier findings of the value of matching: "4"+"3" vs "2", "1" and "0" $p<0.0025$, 0.025 and 0.01 at 6 months, 1 and 2 years.
2. Of these patients, **114** had had no transfusions and **304** were known to have had 1 or more transfusions previous to transplantation. The overall survival is significantly better in the **transfused** group $p<0.01$, 0.025 and 0.05 at 6 months, 1 and 2 years respectively.
3. Additional data will be presented relating to MLC, donor-recipient sex and blood groups and presensitisation.

R. A. Sells

The prevailing scarcity of cadaveric kidneys has severely hampered the efficiency of dialysis units. Ideally, kidney machines should be reallocated to new cases as their users are transplanted. At our unit, which has been fully operational for 2 years, 77 transplants have been performed at least three months ago. Because of the shortage of kidneys, both artificial and cadaveric, 18 did not receive prior dialysis, (ND) 18 had peritoneal dialysis (PD), and 41 haemodialysis (HO) before transplantation.

We have analyzed the survived figures in these groups as part of a general review of policy, and in the light of a threatened cut-back in dialysis resources.

Results

		At 3 months			
		Graft	Nephrectomy		
Preop.	n	survival	on dial.	no dial.	Dead
ND	18	6 (33%) (2 LRD)	4 (22%)	3 (13%)	5 (27%) (1 LRD)
PD	18	10 (55%) (2 LRD)	4 (22%)		4 (22%) (1 LRD)
HD	41	26 (62%) (6 LRD)	11 (26%) (2 LRD)		4 (10%)

(LRD – live related donor)

During this period 28 other patients were considered suitable for transplantation, there being no dialysis available for them; 27 died while waiting for a cadaver kidney.

Comment Although the mortality is so high (33 dead out of 46 put on the Waiting List for a transplant) we think it is justifiable to attempt transplantation when no dialysis is possible.

Our results underline the necessity of adequate facilities to treat the largest number of patients satisfactorily. A cut-back in dialysis plant is bound to result in worse results.

B. A. Bradley, M. Sheehy, J. J. Keuning, A. Termijtelen and J. J. van Rood

Orthodox phenotyping for lymphocyte defined gene products of the major histocompatibility locus (MHC) depends upon homozygous typing cells (HTC) in mixed lymphocyte reactions (MLR). Recently it was suggested that cells primed in MLC could be used in a secondary MLR to positively identify the same gene product (1, 2). Here the specificity of secondary MLRs was examined.

Lymphocytes were from typed humans, HTCs were from homozygous progeny of cousin marriages. Priming in vitro was for 10 days. These cells were stored and used as responders in secondary MLRs.

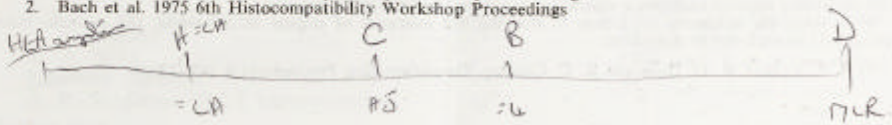
Within 24 of rechallenge primed cells responded rapidly as measured by ^{3}H-Thymidine uptake. Reactions to compatible HTCs were zero. Responses towards HTC haplotypes carried by the priming cell always ranked highest when specific and third party phenotypes were used for restimulation.

In a minority high responses were consistently obtained with certain third party HTC haplotypes absent from priming cells.

Using a family in which a crossover existed between HL-A Four and MLR HL-A was shown to have no influence on restimulation. Non-MHC genes could be excluded.

This technique enables a rapid definition of the MLR region and it obviates the need for HTC.

1. Sheehy et al. 1975 6th Histocompatibility Workshop Proceedings
2. Bach et al. 1975 6th Histocompatibility Workshop Proceedings



K. I. Welsh and H. Burgos

F1 animals injected i.p. with parental cells develop killer cells capable of non-specific lysis of nucleated target cells (including F1 lymphocytes). A blocking factor is present in the sera of these animals however, which completely blocks in vitro T-cell killing. The production of non-specific F1 killer cells probably has some form of memory as the effect is magnified by two or more injections of parental cells. In addition 2000r irradiation of the injected parental cells (conditions which abolish GvHR as measured by popliteal node enlargement) have no effect on killer cell production.

G. M. Stirrat

A microcytotoxicity test was developed which used ^{125}I-Iododeoxyuridine as a terminal label. It was able to detect CMI in vitro to a single allogeneic skin graft or to multiple allogeneic spleen cell injections. The CMI induced by allogeneic skin grafts reached its peak on day 7 and gradually declined during the ensuing weeks. Its 'half-life' was about 24 days. The addition of allogeneic non-immune and even syngeneic lymphoid cells to fetal fibroblast target cells was associated with cell-inhibition which was sometimes considerable. This non-specific effect did not seem to be related to target cell/effector cell ratios.

A significant degree of cell-inhibition was induced by lymphoid cells taken from mice which had undergone 4 or more pregnancies by a male of another strain when tested against paternal strain target cells. No significant effect could be found after less than 4 pregnancies.

Normal mouse serum had an inhibitory effect in this assay, and immune LNC were most affected for the cell-inhibition induced by them was consistently reversed by all sera (but not by plasma). Despite a high level of cytotoxic and haemagglutinating antibodies, hyperimmune serum (at non toxic levels) failed to block the target cell-inhibition caused by specifically immune cells. There was, in general, no difference between the effect of normal serum in this assay and that of pregnant or parous serum. The same applied when plasma was used.

J. N. Johnson and R. A. Sells

Clamping the rat kidney under anaesthesia has been used for studying means of improving renal viability after ischaemia (e.g., Bell, Quin & Calman 1974 (1)). The validity of this technique depends on the method used. Factors leading to lack of reproducibility of results have been evaluated in the present study.

Method:

Under ether anaesthesia the left kidney was visualised in 150—250 G. rats. Three clamping techniques were used and warm ischaemic times (W.I.T.) accurately measured.

A Artery and vein clamped only.
B Artery, vein and ureter clamped.
C Artery, vein and ureter clamped, all peritoneal attachments divided.

Right nephrectomy was performed at 3 days and the fraction surviving observed at 1 week.

Results:

Methods A and B both resulted in 100% mortality after 90 minutes W.I.T. and method C after 70 minutes W.I.T.

Conclusion:

The rat kidney appears to derive a significant blood supply through its capsule.

When using the ischaemic rat kidney in studying the tolerance of organs to ischaemia, the capsular blood supply should be excluded by dissection.

(1) P. R. F. Bell, R. O. Quin and K. C. Calman; Transplantation Proceedings **6** 245 (1974).

AGENDA FOR THE ANNUAL BUSINESS MEETING

TO BE HELD ON WEDNESDAY, 15th OCTOBER, 1975, at 2 p.m.

1. Minutes of Business Meeting held on April 16th, 1975.
2. Matters arising from the Minutes (see below).
3. Election of Officers and Committee members.

Present Committee	*Elected*	*Due to retire*
General Secretary: L. Brent	1974*	1976**
Meetings Secretary: A. D. Barnes	1974*	1976
Treasurer: J. Hopewell	1972	1975
J. R. Batchelor (Chairman)	1974	1976
P. R. F. Bell	1974	1976
Heather M. Dick	1973	1975***
H. Festenstein	1972	1975
R. A. Sells	1973	1975
Elizabeth Simpson	1974	1976
A. R. Sanderson (B.S.I. representative) ...	1974	–

*Second term

**The General Secretary is retiring one year early so as to avoid the retirement of both secretaries in the same year

***By decision of Committee will remain on the committee for one more year, following the rule that 2 committee members only should retire annually.

There are, thus, vacancies for the posts of General Secretary and Treasurer, and *two vacancies on the committee.*

The following nominations have been received:

POSITION	NOMINEE	PROPOSER	SECONDER
General Secretary:	R. A. SELLS, Department of Surgery, University of Liverpool, Liverpool.	L. BRENT	HEATHER DICK
Treasurer:	M. N. ELVES, Institute of Orthopaedics, Royal National Orthopaedic Hospital, Brockley Hill, Stanmore, Middlesex.	ELIZABETH SIMPSON	A. D. BARNES
Committee members:	MARY G. McGEOWN, Renal Unit, Belfast City Hospital, Belfast.	J. MOORHEAD	J. HOPEWELL
	J. SACHS, Tissue Immunology Unit, The London Hospital Medical College, Turner Street, London, E1 2AD.	H. FESTENSTEIN	P. J. KILSHAW
	J. R. SALAMAN, Cardiff Royal Infirmary, Newport Road, Cardiff, CF2 1SZ.	J. R .BATCHELOR	R. A. SELLS