Scottish Intensive Care Society
NEWSLETTER
January 1997

SICS Annual Scientific Meeting 1996

Last year the fifth Annual Scientific and General Meeting of the society was held on Friday, 2nd February in the now familiar surroundings of Stirling University. Once again, the organisers had to make rather hurried rearrangements following the very late withdrawal of a top-of-the-bill speaker from N. America. Three excellent speakers from south of the border deputised at short notice and the resulting meeting, attended by 140 delegates, was an outstanding success. Once again, Dr Ian Armstrong and Dr Bill Kerr are to be congratulated for their organising skills.

The morning presentation on "Trauma Care" by Mr Ian Anderson from Glasgow was both entertaining and informative. He gave an overview of the early management of trauma, including the ATLS system and subsequent developments for training. He stressed the importance of the collaboration that is necessary in order to produce good results, including interplay with the ambulance service, teamwork within hospital, and appropriate transfer.

The workshops which followed presented a choice of four very pertinent topics running in parallel:- Paediatric Airway Management (Dr D. Simpson, Edinburgh); The Nurse Practitioner in ITU (Dr P. Lawler, Cleveland); Paediatric Medical Emergencies (Dr D. Hallsworth, Glasgow); and Radiological Interpretation (Prof R. Green, Glasgow). This session was repeated after coffee, giving the opportunity to attend a workshop on a second subject. As in the previous year, these sessions were very well received. Although sometimes frustrated at having to miss out two of the topics, delegates often found that the key points were subsequently available from colleagues.

After lunch, Prof Reg Green, from Health Care International in Glasgow and previously from Massachusetts General Hospital, gave a first class talk on "Imaging in ARDS". He presented images, some of which were so familiar, and he revealed the correlation with pathophysiology which was fascinating, and educational for most of us.

Replacing the advertised presentation, there followed a session on oxygen transport with three speakers from London and this more than made up for the disruption to the original programme. Dr Charles Hinds from St Bartholomew's Hospitals gave a talk entitled "Oxygen Delivery - The Real Truth" in which he reviewed the evidence for and against using the goals defined by Shoemaker to drive therapy in severe sepsis. Studies to date, he concluded, do not support trying to achieve supranormal values for cardiac index and oxygen delivery in all cases. In some these goals are not achievable and striving to reach them may be detrimental. He stressed the importance of early intervention, proper preoperative resuscitation, and adequate volume replacement. In those who fail to achieve supranormal levels with moderate inotropic therapy, he advised backing off and aiming for normal values. Dr Owen Boyd from Roehampton tackled the difficult subject of "Splanchnic Circulation". After an overview of the adverse effects of reduced perfusion on the gastrointestinal tract and modes of therapy, he focused on the problem of preventing ischaemic damage. Measurement of the gastric intramucosal pH can provide good prediction of outcome but its use to guide therapy seems to be less well established. He presented the conflicting evidence which exists on:- the correlation of gastric intramucosal pH, as measured by tonometry, with tissue oxygenation; which patients should be treated aggressively; and which agents to use in order to improve splanchnic blood flow. In his talk on "Renal Protection" Dr Mark Palazzo from Charing Cross Hospital described the very high mortality associated with established renal failure, particularly in conjunction with other organ failure, and the low impact of advances in renal replacement therapy. He presented a detailed protocol for renal rescue aimed at achieving normovolaemia (after vasodilation with glyceryl trinitrate), normotension (specific to the patient), and decreasing the work of the kidney. This included the use of noradrenaline to achieve normotension plus low dose frusemide infusion instead of dopamine. Vigilance is required, he said, to avoid potassium and magnesium

depletion, and concealed hypovolaemia caused by "vasoconstrictor creep".

The poster competition at the meeting attracted six entries and the joint first prize winners were:-
"The effect of graft reperfusion on pulmonary haemodynamics, shunt and dead space during orthotopic liver transplantation." by T. Walsh, P. Hopton and A. Lee from the Royal Infirmary, Edinburgh; and
"Why do patients die on general wards following intensive care?" by C.B. Wallis, A.J. Shearer and H.T.O. Davies from Ninewells Hospital, Dundee.

A.J. Shearer

Intensive Care Medicine Course

The Scottish Intensive Care Society held its first course in intensive care medicine at the Lister Postgraduate Institute, Edinburgh in the autumn of 1996. The 3-day course covered a wide range of topics concerning clinical management of the critically ill. It was aimed primarily at experienced trainees who are developing an interest in this field, although some consultants also attended, picking up 13 golden CME points on the way. The number of students was restricted to 30, to allow reasonably sized discussion groups. The standard of teaching was high, with the dizzy heights of excellence being reached by a comedic duo of nephrologists who provided some of the finest entertainment, this side of the Edinburgh Festival.

The course was enjoyed by both teachers and students, to the extent that a further two are being planned for 1997. These will take place in Glasgow and Edinburgh and will be complimentary in content. Further details may be obtained from the course organiser:-

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Annual Audit Meeting

This meeting was held in the Station Hotel in Perth on Friday 22nd November, 1996. The format, which I hope will be followed in future, involved a significant contribution from colleagues reflecting their local use of the system.

Mark Livingston opened proceedings by presenting the updated assessment of the performance of the five scoring systems which are being used at the present time. This emphasised in particular the very good performance of APACHE II and SAPS II and the poor performance, at least in terms of calibration, of APACHE III. This is welcomed as use of APACHE III would involve significant cost after completion of our contract with Apache Medical Systems in July 1997. At present it would appear that the best way forward would be to concentrate on APACHE II and consider the use of the Mortality Probability Model scored on admission (MPM_0) as a score which is most different from the physiology based models. Mark pointed out that the performance of any of these systems could be improved by developing Scottish coefficients based on our own data.

Fiona MacKirdy showed data comparing the relative "performance" of individual ICUs concentrating on APACHE II. The most important observation was that no unit had a Standardised Mortality Ratio (SMR) significantly different from the Scottish average. Consequently when the data is split into two nine month periods the rank order of units changes considerably. This observation should be reassuring, particularly as the overall performance compares favourably with previously published US and UK data. She also demonstrated that if errors in data collection were taken into account this would lead to a reduction in variation between units. Given this limited variation it is perhaps to be expected that there is no obvious relationship between the size of a unit, the average severity of illness of its patients, or whether it is a teaching hospital and its performance based on SMR.

Dr Plenderleith chaired a session where data on deaths following "successful" intensive care was presented from case note reviews performed in the Western and Victoria in Glasgow (a similar study done in Ninewells has recently been published in Anaesthesia). The major feature of the two presentations was that, contrary to what we might believe, their is little evidence to suggest

that a significant number of patients die in the ward after ICU discharge, who could reasonably have been expected to survive.

Dr Leary presented data to suggest that while APACHE II may perform well overall, there may be, within the population, subgroups in whom this is not the case. He focused on one of his special interest groups, Cardiogenic Shock, and demonstrated that there was significant underprediction of mortality. He also pointed out that patients admitted for preoperative optimisation require to be identified and risk weightings produced as the present systems were developed prior to the widespread use of this approach.

Dr Patrick Armstrong demonstrated the use of various methods of costing ICU care on an individual basis. He showed that whether costs to individual directorates were based on simple measures such as occupancy or on the more elaborate daily TISS points, similar patterns of overall costings resulted. It may be that the TISS costings are more useful when comparing costs between ICUs. A compromise is the broad categorisation of patients into High Dependency or Intensive Care based on the extent to which active organ support is undertaken. This will come into operation in England in April, 1997.

Dr Shearer gave a "hot off the press" presentation on a study from Ninewells Hospital which appears to demonstrate that patients whose episode of ICU care involves periods of high ICU occupancy have a poorer survival than would be accounted for by their severity of illness. Further studies will be required to demonstrate whether this is causal or related to factors such as variations in admission and discharge policy. This was a good example of a study which does not revolve around severity of illness scores but nonetheless relies on them to ensure that differences in outcome are not simply due to variations in case mix. An update on this work will be eagerly awaited by those looking for ammunition to improve ICU provision.

The most rumbustious presentation was delivered by Dr Robb. He spent time explaining why severity of illness scoring systems such as APACHE lose credibility when individual patient scores and outcomes are examined. He explained that consequently he felt that the considerable time involved in data entry was a poor investment. He also expressed the view that where such data continues to be collected it should remain confidential as managers and the public could not understand its potential pitfalls. The last I saw of him he was involved in a discussion with Dr Campbell at the end of the meeting. She is a specialist in Public Health and was representing CRAG (our funding body).

Brian Millar, who has been involved in running a similar exercise in South West Thames, and has written the software we currently use, then confounded many people's expectations by agreeing with some of what Dr Robb had said. He explained that the next generation of software, which we plan to install in the spring of 1997 and which will run on either IBM or Apple, has had greater emphasis placed on the delivery of management type information. Based on Mark Livingston's evaluation of the scoring systems he demonstrated the extent to which data entry could be rationalised. He reminded us that in England the Intensive Care National Audit and Research Centre (ICNARC) is continuing to recommend, for the foreseeable future, the expanded data collection which we propose shortly to simplify. Nonetheless it would be sensible within these limitation to retain maximum compatibility as this will provide ongoing comparisons of performance.

There then followed a panel discussion which was dominated by two themes, the extent to which data collection should be reduced and to what extent information about individual ICUs should be released on a named unit basis. The views of participants were then collected by a questionnaire which a surprising number of the delegates completed. In summary this showed that all respondents found the information collected to be useful and that all but one wished their unit to continue to participate in the audit. Of those, all wish to continue to collect APACHE II data and a significant majority are willing to collect data for other scores such as MPM_0 and SAPS II. Surprisingly an overwhelming majority wish to collect daily TISS data. On the question of confidentiality the majority were in favour of releasing all data on a named unit basis, with the exception of average severity of illness scores and SMRs, to a group representing all ICUs and a representative of management.

Lastly I would thank in particular those who indicated the use they currently make of the system as this was particularly useful in my recent discussions with CRAG. As I explained at the meeting CRAG have agreed to continue to fund the project beyond the current project (ends in July, 1997) until April, 1998. This is on the basis that, during this period of extended funding, units become responsible for maintenance and where necessary replacement of the current hardware. Should you require to replace hardware we will provide an indication of the minimum specification and we presume the majority in time will transfer to a IBM based system.

Funding of the project thereafter will depend on the case for its value being accepted by purchasers. This process gets underway at a meeting of the National Projects Committee on January 15th. The final (fourth) meeting which will determine ongoing funding is with Board General Managers on June 18th. The funding estimate at the present time is approximately £4000 per annum per ICU to be met directly by the purchasing authority.

J.C. Howie

South-East Scotland Intensive Care Group

The South-East Scotland Intensive Care Group meets about six times a year. Since its inception in April 1995, it has toured its constituent units in Edinburgh, Livingstone, Dunfermline and the Borders. The meetings are well attended by consultants and trainees alike, and have been marked by a wide variation in the topics presented, and in style. These have included case presentations, audit reviews, and debates. Topics covered have included transport of the critically ill, management of subarachnoid haemorrhage, cardiogenic shock, pre-ICU care and the utility of the pulmonary artery catheter. A fine tradition of lively, informed open discussion has been established, with the discourse continuing around the supper table.

A diary of future events is available from the secretary:-

Dr Mike Fried
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Glasgow and West of Scotland Intensive Care Group

The Glasgow and West of Scotland Intensive Care Group holds three evening meetings each winter.

The first of this season was held on Tuesday 3rd December, 1996, when Dr Mervyn Singer talked about "Pre-ITU Care". The remaining meetings will be held on Thursday 20th February, 1997, when Professor Nigel Webster will give a talk on "Nitric Oxide - More of Less" and on Thursday 20th March, 1997, we will hold an evening of Clinical Presentations and the AGM.

The Committee for 1996/97 is:-
Dr Roger Hughes, Chairman
Dr Louis Plenderleith, Secretary
Dr Brian Cowan, Treasurer
Dr Malcolm Booth
Dr Roger White

All interested in joining the Group or wishing further information should contact:-
Dr Louis Plenderleith
Consultant Anaesthetist
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The President

Nineteen ninety six has been a landmark year for intensive care in the United Kingdom. After many years of discussions, the Royal Colleges have established an Intercollegiate Board of Intensive Care Medicine. The Board has already formulated plans for a diploma examination, and for structured training programmes of either one or two years' duration slotted into anaesthesia, medical or surgical training. Regional education advisors in intensive care medicine are already being appointed, and regional training committees and accreditation of training ICUs are on the way. Finally, formal specialty status is being sought from the specialist training authority of the Royal Colleges.

There are varying options as to the benefits or otherwise of intensive care being a distinctive specialty. However, it is happening, and we shall see significant changes in both training and the recognition of training in the near future.

It was the need to co-ordinate and represent this emerging specialty in Scotland that led to the formation of the Scottish Intensive Care Society in 1991. In addition, the aims of the society were to promote educational, research and audit activities. In six short years, we have achieved a lot. The Scientific Meetings initiated by Dr A.J. Shearer and his Dundee colleagues in 1988, before the society even existed, have developed steadily and become the most important date in the intensive care calendar in Scotland. The SICS national audit project is now well through its first three year term; thanks to members of the society it is producing accurate and valuable information on ICU activity and outcome, years ahead of the English and Welsh ICNARC study. Our thanks to Cameron Howie, Nigel Leary and

especially to Fiona McKirdy and Mark Livingston for all their hard work. 1996 has seen the first Intensive Care Medicine course run by the society over 3 days at the Lister Institute, Edinburgh. This was over-subscribed and will be repeated next year in Glasgow and Edinburgh. These are just three major initiatives by the society. In addition, we have developed close links with the Scottish Office and been involved in discussions on arrangements for organ retrieval and transport of the critically ill.

Not bad for 6 years' existence, but with the emergence of intensive care medicine as a specialty, the society must further develop its representational, co-ordinating and educational roles. In particular, we would aim to be the official source of advice to the Scottish Office on matters related to intensive care. In the academic field, possibilities for further development include the formation of research committee to co-ordinate multicentre research projects, and the funding of educational or research grants and travelling fellowships.

1997's Stirling meeting sees the retiral of Ian Armstrong as Honorary Secretary/Treasurer. Ian has put and enormous amount of energy into the society, for which we are extremely grateful. As a society, we look forward with excitement to the changes coming in intensive care, and intend to work towards keeping Scotland at the forefront of intensive care practice.

I.S. Grant

The Council

The council of the society comprises:- a president who now serves for 2 years; the immediate past president who gives way after one year to a vice president for 1 year; eight regional representatives who, except for the treasurer/secretary, serve for 2 years and may be re-elected for a second term of office, following which they may not be re-elected for a further 2 years; and other non-voting members invited by the council for specific purposes. The treasurer/secretary is elected by the council from amongst its members and serves in office for 3 years and may serve a period of up to 4 years on council.

The current council members with date of election in brackets are:-

President: Dr I.S. Grant, Edinburgh Western General Hospital (1996)

Past president: Dr I.G. Gray, Dundee Ninewells Hospital

Treasurer/secretary: Dr I.R. Armstrong, Edinburgh Royal Infirmary (1993) - Treasurer/Secretary

Regional representatives

North

Dr I. MacKenzie, Inverness Raigmore Hospital (1994)
Dr G. Smith, Aberdeen Royal Infirmary (1995)
Dr A.J. Shearer, Dundee Ninewells Hospital (1995)

East

Dr N. Leary, Melrose Borders General Hospital (1994)
Dr D.G. Swann, Edinburgh Royal Infirmary (1996)

West

Dr B.N. Cowan, Glasgow Victoria Infirmary (1996)
Dr R.L. Hughes, Glasgow Stobhill Hospital (1996)
Dr D. McLean, Carluke Law Hospital (1995)

Co-opted non-voting members

Dr P.G.M. Wallace, Glasgow Western Infirmary - Intensive Care Society UK
Dr J.C. Howie, Glasgow Victoria Infirmary - SICS Audit Group