Welcome to day three of ISICEM 2012

The second day of this year’s conference saw the in-depth examination of key topics, all of which received an enthusiastic response from delegates and provoked a series of fascinating debates. Thursday’s program will be just as extensive and wide-ranging, with a number of sessions embracing topics such as respiratory mechanics, hemodynamic monitoring, postoperative complications, sedation and analgesia, acute respiratory distress syndrome, cardiac failure, enteric feeding and early mobilization.

Thursday will also provide a rich mix of pro-con debates, covering areas such as steroid usage in community-acquired pneumonia, the relationship between selective digestive decontamination and the risk of bacterial resistance and transthoracic echo for hemodynamic assessment. The popular tutorial format also continues on Thursday, with microcirculation monitoring placed in the spotlight.

The third day of ISICEM 2012 offers another opportunity for delegates to explore the poster areas and read about diverse investigations into, to take just a few examples, a systems biology prediction model based on clinical data, the impact of impaired kidney function at discharge on survival after acute kidney injury, an investigation into hemodynamic stability during intermittent hemodialysis in the critically ill, why a massive transfusion protocol had no impact on coagulopathy and mortality at a level 1 trauma center, out of hours discharge from the ICU, and the effects of an in-hospital rapid response system on outcome and workload.

This issue of ISICEM News features reports from all of the simultaneously published trial presentations, interviews and in-depth discussions on upcoming topics with attending intensive care professionals.

Elderly brain-injured patients should be taken seriously

The pessimistic expectations of the outcomes for elderly patients with traumatic brain injury (TBI) is unjustified, and they should be treated similar to any other patient, attendees were told on Wednesday in the Silver Hall.

The call for a change in attitudes was delivered by Nino Stocchetti (Fondazione IRCCS Cà’ Granda Ospedale Maggiore Policlinico, Milan, Italy), who began his presentation by highlighting that the proportion of people aged over 65 years in Europe and America has grown substantially in recent decades. Furthermore, the median age for brain trauma has increased from 25 to 48 years, and 45% of patients are now aged over 50 years now.

Dr Stocchetti explained that the assumption has been that outcomes from TBI, particularly in older patients, was bleak, with the vast majority of patients dying within years now.

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He also highlighted that researchers have found that elderly patients are more likely to have underlying conditions such as diabetes, heart disease and chronic obstructive pulmonary disease, which can further complicate their recovery.

Dr Stocchetti emphasized the need for a change in attitudes and for treating elderly brain-injured patients as seriously as any other patient. He also called for more research into the best ways to treat these patients and to develop new strategies to improve their outcomes.

He concluded by saying that the future of treating elderly brain-injured patients is bright, and with more research and better treatment strategies, we can expect to see improved outcomes for these patients in the years to come.
Are we ready to move towards bigger, more specialized ICUs?

The benefits, pitfalls and myriad of logistical details that must be considered in a new era of regionalized critical care will be placed under the spotlight in a special session on Thursday morning, when invited experts take a closer look at several key points in this potentially field-changing shift in care.

Speaking to ISICEM News ahead of the meeting, session co-chairmen Brian Kavanagh (University of Toronto, Canada) and Dylan de Lange (University Medical Center, Utrecht, The Netherlands) gave their thoughts on several aspects due to be addressed in the session.

The first concept that will be approached in the session will be that of 24 hour intensive care, seven days a week. “That’s not a regionalization issue per se, but having consultant-level intensivists in-house 24/7 means more intensive care staff in each ICU,” said Professor Kavanagh, and “If you need more per ICU, then that means you generate a lot more trained people for all the ICUs, or you rationalize and concentrate the ICUs into a smaller number of bigger-sized units”.

He continued: “Although the issue is far from proven, most people believe that if you can get the 24/7 system working well, then it probably provides a superior model of care – at least in that ICU. But there are many problems. By switching to 24/7, you may thin out the standard of care, potentially exchanging day-time excellence for 24-hour adequacy.”

In addition, Professor Kavanagh said that those aiming for a career in critical care and a different specialty (e.g. respiratory medicine, anesthesia or surgery) may opt out of critical care or their other specialty and pursue a single specialty only. Of course, many would believe that is a good thing.

“Those are definitely issues,” he said. “Nevertheless, if you are able to provide a consultant level of care 24 hours a day, 7 days a week, as opposed to 8 to 12 hours a day, 5 to 7 days a week, it’s pretty obvious, all things being equal, which model you would prefer – certainly as a patient in ICU.”

Dr de Lange added his thoughts on the ‘knock-on’ effect of regionalization on smaller centers that remain: “Probably certain hospitals are going to lose a certain amount of acute care,” he said. “Maybe that’s a downside for them. On the other hand, if those hospitals specialize and become very large eye clinics, for instance, where a lot of eye surgery is being done, and those patients hardly ever need critical care use, then there’s no need for that hospital to have a critical care unit.”

He added: “Then you get high standard of care in one hospital – eye surgery care – and then high standard of critical care 24/7 in another hospital, and ultimately I think that is better for the patient needing critical care... so I think it’s not only regionalization, it’s also specialization.”

Dr de Lange added that a move forward in this way would at least help wean out centers that are currently not coping very well in their ICU. He said: “Certain hospitals might be understaffed, or might already be not appropriately equipped to deal with those patients, and they’re doing it anyway. Maybe that is even
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Professor Kavanagh said that probably the best example to illustrate was ECMO, in particular the CESAR (Conventional Ventilation or ECMO for Severe Adult Respiratory Failure) study[1] “That was a study that showed, by and large, that patients randomized to ECMO care did better than patients who were randomized to non-ECMO care,” he said.

“The crux of the issue there, however, is whether they actually randomized to receive ECMO per se, they were randomized to be referred to a center that had ECMO, and it’s really an argument for better system-wide care of patients who are desperately ill with respiratory failure, and they do better in a hospital – in an ICU – that includes ECMO (and probably a lot of additional) expertise, whether they get ECMO or not.”

Thus Professor Kavanagh stressed that it is not the machines, per se, and not necessarily any single aspect of therapy that is most important in these cases, the core message is an ICU with the ability to do ECMO – whether patients receive it or not – offers better patient outcome than non-ECMO centers. Thus the intensivists and teams in these centers may be the main factor in improving outcome.

Professor Kavanagh did point out that one aspect that might need special consideration in the regionalization discussions is where speed of therapy may be more important than specialized expertise. For example, while patients requiring ECMO may have hours or days before they need to be transferred to an ECMO center, for patients with an acute myocardial infarction, every minute counts.

“So what you want is the best of all worlds,” said Professor Kavanagh. “And you may or may not get it in a regional centre. For example, emergency treatment of acute MI depends more on rapid implementation of fairly simple diagnostic and treatment protocols, but assessment and treatment of a complicated stroke will not be simple; the former can easily have initial treatment locally and then be transferred to a regional centre; the latter will need to be at the centre for all aspects of their care.”

Looking back to the issue of patient turnover mentioned earlier, Professor Kavanagh gave his thoughts on the volume-outcome relationship of centers – and just how much the model really works. “Volume-outcomes imply that the more of a particular case that is done in a hospital, the better the results will be,” he said. “But a lot of smart investigators have demonstrated that this is not always the case.”

“Some of the problems we’ve mentioned in terms of concentrating resources, [to cater for] very big volumes, might have a knock-on effect, you’re treating 50 patients per year, it’s better than if you are doing only 10. Certain diseases might show a volume-outcome relationship but certain diseases might not. And we have to look at those sorts of diseases before we start accusing hospitals that have a low volume.”

Given all of these considerations and practicalities that must be considered, do Professor Kavanagh and Dr de Lange believe that it is inevitable we will move towards regionalized critical care? “It’s inevitable that we’re going to progress towards more and more regionalization,” began Professor Kavanagh. “If only on economic terms. However, the more we understand the mechanisms behind this, the greater capacity we will have for augmenting efficiency and quality and minimizing unforeseen problems.

“Of course, like many things in critical care, in regionalization, one approach may not be ideal for all situations as diverse as disease or practice types, or among countries. So understanding the system, and understanding how this whole thing works makes that [we] can better tailor regionalization.”

Dr de Lange added his thoughts: “It’s inevitable because not every hospital is able to cover 24/7 emergency care, or critical care. It has an enormous impact on material, on physicians, on nurses to be 24/7 available for critical care patients, and a lot of hospitals can’t cope with that anymore."

Dylan de Lange (University Medical Center, Utrecht, The Netherlands)

“It’s probably cheaper if we reduce 24/7 care to three hospitals instead of 10 hospitals, and although that’s a very prominent reason to regionalize care, I don’t think it’s the ultimate goal. The ultimate goal is to improve the outcome of patients.”

Dylan de Lange (University Medical Center, Utrecht, The Netherlands)

References

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Elderly brain-injured patients should be taken seriously

Continued from page 1

patients either dying or left in a persistent vegetative state.1 The IMPACT project, which calculated the relationship between age and probability of outcome indicated that unfavorable outcomes increase markedly over 40 years of age.2 However, the picture appears to be changing. Dr Stocchetti pointed to one of his own studies, which showed that, when splitting patients by decade, the ratio between male and female changes with increasing age, with the proportion of female patients increasing from 19% in those aged 19–29 years to 50% in those aged ≥ 80 years.3 When looking at favorable versus unfavorable outcomes, 65% are favorable in patients aged 19–29 years, which drops to just over 10% for those aged over 80 years.3 However, Dr Stocchetti pointed out that the data show that someone aged 65 years has a similar outcome to someone in their 40s, which suggests that there have been big improvements.2 Furthermore, while the incidence of subdural hemorraghe has increased over the past few decades, mortality is decreasing.4 However, the occurrence of comorbidities and dementia in TBI has not changed. In 1993, Dr Stocchetti said, a study was conducted to see if simply using a risk prediction system would alter intensity of management. Treatment practices were assessed before, during and after introduction of the system and, although the outcomes remained the same, treatments were used more aggressively.5 So, Dr Stocchetti asked, are we simply not treating older patients? It would seem that, for the most aggressive treatments, we are not, he said, concluding: “I think the world is changing, and we have to change. We all have some work to do.”

References

ARDS: Clinical Gold Hall Thursday 22 March 08:00–10:50

Adding definition to ARDS updates

A session that will focus on clinical aspects of acute respiratory distress syndrome (ARDS), and in particular how new ARDS definitions, practices and patient care modalities are performing, will take place this morning in the Gold Hall. Giacomo Bellani (University of Milan-Bicocca, Monza, Italy), who will be co-chairing the session, spoke to ISICEM News to unveil some of the concepts that will be addressed during the session. Firstly, he referred to updated definitions – and their importance – in the fight against ARDS.

“I think definition matters a lot,” said Dr Bellani. “In fact, I think one of the real troubles and struggles for people who have been doing research, and also I think for clinicians doing research in ARDS, is the fact that the population is very heterogeneous.”

“Your’re putting together patients with very different etiologies and severity of lung injury. Having a better definition which tries to put together patients who are more similar from a clinical standpoint is very useful.”

The new Berlin definition of ARDS, which will be introduced by Marco Ranieri (University of Turin, Italy) during the session, represents the latest attempt to better define the disease, refining some of the previously criticized aspects found in earlier definitions.

Dr Ranieri has played a central role in the development of the definition; something which he says has taken all-too-many years to surface.

“Believe that the updated definition is less exposed than the previous one, [but] hopefully it will take less than 20 years to have an update of this definition,” he said.

He continued: “This new definition was tested in a very large observational study that included more than 5000 patients and we were able to test the sensitivity and the specificity of the new definitions. We ended up with a formal demonstration that this new definition works better than the previous one to identify the patients.”

Dr Bellani added his thoughts:

“A big limitation for the previous ARDS definition in my view was an absence of a level of PEEP [positive end-expiratory pressure] in the definition,” said Dr Bellani. “You could just measure PaO2, FaO2 under whichever condition.

“I think this is an important strength of the Berlin definition – that the level of PEEP is introduced in the definition. And also it introduced compliance, so there are more kinds of physiological descriptions, rather than simple blood gas parameters.”

One criticism that may be made about the definition is a parameter outlining that the respiratory failure is not adequately explained by cardiac failure or fluid overload. Surely this is rather subjective? “Yes, but this was still in the former definition,” said Dr Bellani.

He added: “And this time, it hasn’t changed much. What has changed is they are trying to standardize the way you are collecting. For example, the arterial blood gas needs to be collected at a given PEEP level, so there is a better standardization. At least this would be the idea.”

He continued: “As with everything, [the definition] can be criticized. I think it’s important now that these definitions are challenged with actual data, and see if it improves the certiﬁcation of the patients or not. I think it is at least a good start, which of course can be improved.”

Dr Ranieri added his thoughts on the criticisms that have surrounded the deﬁnition. “A definition – by deﬁnition – is exposed to some arbitrary criteria,” he said, adding “of course it’s not perfect, and to upgrade, it took 25 years. I hope it will take less [time in the future].”

Moving on from the deﬁnition, Dr Bellani continued to describe how he thought the ARDS population had changed over time, something which is to be addressed during the session at ISICEM. “I think we are ventilating people better, and so I think we see less and less patients with the consequences of bad ventilatory settings,” he said. “So we have fewer patients with barotrauma, fewer patients with high tidal volumes, and I think – and it’s not just my feeling, it’s in the literature – but maybe also because of this reason, the incidence of ARDS is going down.”

Another aspect of ARDS treatment that Dr Bellani said was most likely reducing was the use of nitric oxide (NO), which is again something planning to be addressed during the ARDS clinical session. “I think nowadays the people are limiting the use of NO in ARDS to selected cases,” he said.

He continued: “From what is my understanding of the literature, and what is my relatively small clinical experience, I think NO is a very good tool to improve oxygenation. If you have a patient who’s really hypoxic, and you really need to improve oxygenation quickly, then NO can help you.”

“One on the other hand, just improving oxygenation per se does not improve outcome. And as a matter of fact, all of the trials about inhaled nitric oxide (NO) in ARDS patients have failed to show a benefit. So if you need to improve oxygenation probably NO can help you, but on the other hand you will know that you will not necessarily improve outcome because of it.”

In his final comments to ISICEM News, Dr Bellani touched upon the use of NAVA (Neurally Adjusted Ventilatory Assist), a new ventilator modality driven by the electrical activity of the patient’s diaphragm. While Antonio Pesenti (University of Milan-Bicocca, Milan, Italy) will present more detailed information on NAVA during the session, Dr Bellani briefly commented on the use of the technique in his center.

“This seems to be very promising, and some groups, including ours, have been using it during ARDS,” he said. “I think there is some interesting data, but it’s very preliminary.”

Dr Bellani will co-host the session ‘ARDS: Clinical’ at 08:00 on Thursday 22 March in the Gold Hall.
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Emerging issues in fluid resuscitation: The Round Table report

On Tuesday’s opening session, the Salle Henry Le Boeuf played host to a presentation that would give delegates a snapshot summary of the Round Table (RT) conference held immediately prior to ISICEM.

This year, the RT conference focussed on fluid resuscitation, a topic which has seen too little focus in the past, speaker Monty Mythen (University College London, UK) explained. “In the past, there has been a tendency to think that fluid resuscitation is in somewhat benign – it’s just something that goes on – whereas it now seems very clear that it’s a very, very important issue,” he said.

John Myburgh (University of New South Wales, Sydney, Australia), who co-presenting with Professor Mythen, began the summary of the RT conference during the session, saying: “We now have evidence, [and] there is some good data, that suggests that the type of fluid may in fact affect outcome, and the use of fluids needs to be given in a much more considered scientific approach.”

He added that, while fluid resuscitation was the second most common intervention in critically ill patients (after oxygen), the evidence for it is really quite limited. “The most commonly prescribed fluid that’s actually used is normal saline… but there appears to be no evidence for its use,” he said.

Furthermore, he added that the type of fluid administered in any given ICU is dependent on geography.

Summing up the conclusions reached in the RT conference, Professor Myburgh said: “[Fluid resuscitation] is a ubiquitous intervention, and selection is dependent entirely on where you live. It’s given in a random fashion, often by junior staff, in the middle of the night, against consistent haemodynamic and physiological endpoints.”

He added: “There’s a net association of fluid retention in our patients, with adverse clinical effects; the place and rationale for ‘maintenance’ fluids is highly questionable. We also now see that there’s consistent data at the ratio of crystalloid to colloid in resuscitation is not 3:1 or 4:1, it’s actually much more to the order of 1:1.4. And overall, on that basis, there is little evidence to support the use of colloids at all.”

“So therefore, we now need a paradigm shift to...
Continued from page 8

regard fluids more like we do drugs, [with] context-specif-
ics … and be particular aware of toxicity.”

In his portion of the talk, Professor Mythen addressed
the two publications that will emerge from proceedings of
the RT conference, the first being a status update on
current use of intravenous (IV) fluid in the ICU.

Specifically, the paper will focuses on the importance
of IV fluids before evaluating the emerging evidence
that selection and use of fluids have a direct impact
on outcome. Furthermore, it
will suggest the need for a
paradigm shift, making rec-
ommendations for education,
practice improvement, quality
assurance and audit.

The second paper will
discuss the way forward, as
Professor Mythen explained:
“We will give some views on
unmet needs: the fact that
there may be better fluids
that could be produced and
therefore, respiratory acidosis. Coupling mild
extracorporeal support devices with ultra protec-
tive ventilation represents the most promis-
goal in the severe ARDS patients’ treatment.
Technological improvement has permitted
the creation of new devices that are able to perform
extracorporeal CO₂ removal (ECCO₂R) at lower
blood flows with less invasiveness. However,
our knowledge is limited to case reports and
series studies. Future randomized clinical
trials that will soon be initiated will help physi-
cians to consider minimally invasive ECCO₂R
devices, coupled with MV setting, as an alterna-
tive to MV alone to prevent and minimize the
side-effects of ventilatory support.

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CO₂ removal – new concepts in ARDS

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form of life support for patients with acute
respiratory failure and can resolve the impair-
ment of gas exchange alteration in the vast ma-
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The issues and prospects of hemodynamic monitoring in the ICU will be the focus of a special extended session on Thursday afternoon, when experts from across Europe and the USA will gather to discuss this essential part of critical care.

The session will not only focus on specific devices and techniques for hemodynamic monitoring but also will examine best practice and the best way to avoid common pitfalls from all angles.

ISICEM News spoke to co-chairs Claude Martin (Assistance Publique – Hôpitaux de Marseille, France) and Jean-Louis Teboul (Hôpitaux Universitaires Paris-Sud, Le Kremlin-Bicêtre, France) to find out more about the session and discuss what they feel are the current and most important issues in hemodynamic monitoring.

Dr Teboul began by giving an overview of what attendees can expect. He said: “In this session, we will review all the new and current methods, and try to emphasize the relevance of not only technology but also parameters. How can we use these technologies? What is the relevant information we can use for patients? We have now many, many methods – invasive and non-invasive – and what is important for me is to try to know the information we can use, and the limitations of each method.

He continued: “There is no one ideal method so far. We have good methods for the perioperative period, and we have good methods for the ICU. In this session, we will speak about, for example, electrical impedance tomography, which is not used so far in the field of hemodynamics – maybe in the field of respiratory mechanics and lung gas exchange, but not yet for hemodynamic assessment.

“We will also talk about non-invasive arterial pressure. Some companies are trying to develop new non-invasive arterial pressure devices, not only to get arterial pressure information but also to record the variation of hemodynamic signals continuously and in real time. Maybe in the future, we will have non-invasive cardiac output derived from the arterial pressure waveform.”

The principle of non-invasive versus invasive monitoring is that one has to have a very strong understanding of the underlying physiology to be able to use a surrogate, rather than a direct measure. Obviously, it is important to know whether you are measuring accurately what you think you are measuring. Does Dr Teboul think that non-invasive methods will ever entirely replace invasive monitoring, or will there always be a place for invasive monitoring?

He replied: “We have to distinguish between two situations. The first is the perioperative period, and the second one is in the ICU. Why? Because, in general, the perioperative period does not represent a severe situation; the patient is not too sick. Even in the high risk patient, it is still a debate to insert invasive catheters and the benefit/risk ratio is not necessarily positive. The situation of a patient admitted in the ICU is totally different since, by definition, the patient is severely sick and we can take the risk of inserting invasive devices because the risk of mortality in this patient is high 30%–40% and far higher than the mortality rate in the perioperative period.”

Dr Teboul added: “But, of course, this is the current situation. Maybe if non-invasive technologies with high accuracy and with relevant variables are developed, these technologies can replace invasive technologies,

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Hemodynamic monitoring Gold Hall Thursday 22 March

Exploring ideas and ideals in hemodynamic monitoring
even in the ICU.”

Dr Teboul added: “But, of course, this is the current situation. Maybe if non-invasive technologies are developed that have high accuracy, high relevance, etc, it can replace invasive technologies, even in the ICU.”

Dr Martin focused initially on unmet needs in hemodynamic monitoring, which will be discussed during the session by Wolfgang Huber (Technischen Universität München, München, Germany). Dr Martin said: “Most of us have several needs that are presently not covered by the different hemodynamic monitoring systems that we have in the ICU. Personally, what I need most would be something totally non-invasive, which we don’t have at the present time.

“We have classical invasive monitoring, which is very well known, such as the Swan-Ganz catheter and other related devices. Secondly, we have the so-called minimally invasive monitoring systems. That’s an improvement because we just need an arterial catheter, which is placed in most ICU patients. Although it’s minimally invasive, it’s still invasive and we would like something without any catheter inserted.”

Expanding on the theme, Dr Martin continued: “What hemodynamic monitoring by measuring pressure, so we need something else, like an echocardiography system. Such systems measure the pressure in the heart, especially the pressure in the left ventricle and also in the pulmonary artery.

“If you want to measure cardiac output as well as pressure, you need two devices. Of course, we can best from each.

He added: “The third thing that we need is oxygenation. We want to know how much oxygen is transported to the tissue, and for that we also have non-invasive systems. So you see that trying to have everything in one device is not something that we have at the present time, and for me that is a major limitation. Either we are very invasive, like we were with the catheter and we may still be, or we try to be minimally invasive, but we don’t have all the parameters that we need, and accuracy is a matter of debate for minimally invasive devices. You can rely on the trends probably less on the actual value.”

Dr Martin continued: “One of the major barriers for implementation is that it’s difficult to follow complete

For some of the guidelines, there are several recommendations that are not followed at all. We have data, we have evidence and it doesn’t translate into real life. And it’s one of our jobs at the present time to convince colleagues to change their way of treating patients.”

Claude Martin (Assistance Publique – Hôpitaux de Marseille, France)
“In general, the perioperative period does not represent a severe situation; the patient is not too sick. Even in the high risk patient, it is still a debate to insert invasive catheters and the benefit/risk ratio is not necessarily positive. The situation of a patient admitted in the ICU is totally different.”

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marking a 40 year anniversary for the Intensive Care Society, the 2011 State of the Art Meeting in London, UK was the largest yet, with over 850 delegates and 55 invited speakers in attendance. Featuring a packed programme over three days, delegates were privy to a comprehensive line-up of presentations on the vital components and concepts in intensive care.

Offering his own historical journey through intensive care past and present, Mervyn Singer (University College London, UK) presented an overview of what he thought were the best intensive care medicine (ICM) papers of all time.

“I’m going to pick the ones that have changed my practice or changed my thinking,” said Professor Singer, before going back to a particular event in the 1950s in which, arguably, ICM was born. “The origins of intensive care have been linked back to the Polio epidemic in Copenhagen,” he said. Professor Singer said that the first of the papers to stem from the epidemic - at least to his knowledge - was that of HCA Lassen, who described how, at the time, up to 70 patients required artificial respiration during its most heightened period, with 250 medical students and 600 nurses working in relays.

“Tracheostomy on its own didn’t work; it was a combination of tracheostomy and bag ventilation [which] reduced the mortality from 87% down to 40%, which is pretty good going,” said Professor Singer. “As Lassen commented ‘I don’t think the method’s ideal; it certainly needs to be perfected’. However it seems fair to regard the results as satisfactory.”

Moving a year on to 1954, the British Medical Journal featured more papers referring to the epidemic in Copenhagen. One of these papers, co-authored by B Ibsen, caught the attention of Professor Singer. “[Ibsen] described the concept of intensive care: put all the sick high-risk patients together for observation, recording of blood pressure, pulse etc,” he said. An impactful paper for sure, but Professor Singer was quick to stress that things did not exactly go to plan, as complications from tracheostomy arose in many patients, leading to a flurry of emergency calls.

“Over a hundred calls a night!” Professor Singer proclaimed. He continued, outlining that one important aspect brought to light during the epidemic was that of over or under-ventilation. “Interestingly, they noted that when they put these people on positive pressure ventilation they were now getting deaths not from ventilatory failure, but from cardiovascular failure,” he said.

“Most of those who died did so from shock or the consequences of shock. So they shifted from one problem to another. They commented about how best to ventilate and stressed that over-ventilation was harmful.”

This, according to Professor Singer, was addressed by P Astrup and colleagues in their paper examining the maintenance of ventilation. “[Astrup] found that the major problem with being bag ventilated was that the medical students either underdied it, or overdied it and caused haemodynamic compromise,” he said.

He added: “The following year the mechanical positive pressure ventilator came along [by] Engström.” A point of interest, he added, was the fact that the device also had active expiration either by compression of the thorax or by means of an intermittent negative pressure phase.

“They had good results too, with a 27% reported mortality,” said Professor Singer. Moving onto the topic of iatrogenicity, Professor Singer outlined several influential papers in sedation, fluid management and acute respiratory distress syndrome (ARDS), in particular a paper by Ashbaugh et al, detailing ARDS in adults. Professor Singer explained that this was the first to do so, but there were some concessions. “When you look at the ages, they’re all fairly young. You’ve got an adult of 11 in there, for example,” he joked.

He added that, while the authors coined the ‘ARDS’ acronym, an important aspect not highlighted from the paper was that they identified the amount of intravenous fluid given as a major risk factor. This fact, he said, took many, many years to be broadly appreciated, thanks to the ARDSNet trial.

Tackling the issues of quality of life for patients surviving intensive care, Professor Singer then referred to Margaret Herridge’s work examining patients after ARDS survival. “She showed long-term functional, physical, psychological and neuro-cognitive problems,” he said, “so our mission is not simply about saving life but offering good-quality surivourship.”

Similarly, Professor Singer spoke of WC Shoemaker, who released a paper identifying that tissue oxygen debt and subsequent organ failure was directly related to the action of the anaesthetist in monitoring and treating oxygen delivery during surgery.

“So I think we are increasingly cognisent of the fact that we need to try and deal with the problem at the root source by optimising how we manage patients,” he said.

He added: “However, we do unfortunately suffer from jumping on bandwagons,” alluding to the fact that rapid adoption of trends does not always lend itself well to mainstream intensive care, as well as the fact that there is always a potential that harm will be caused to patients.

As an example, Professor Singer earmarked a ‘seminal paper’ by Ian Ledingham, who identified an unexpected increase in mortality over time.

The State of the Art Meeting
Following significant discussions, the Intensive Care Society (ICS) reached a consensus agreement that it would be preferable to discontinue the former Spring Meetings, and instead organise the December State of the Art Meeting as the Society’s main annual event, with an increase in the numbers of lecture sessions and attendee numbers. In order to arrange this, potential venues were looked into, and ICC East Excel was agreed to be the best option in London.

The Society’s Meetings Committee then had the challenging responsibility of addressing the detailed content for all three days of the State of the Art, but thanks to the support of all involved, and in particular from Dr Max Jonas, who was the main coordinator for arranging the 55 invited speakers, the attendance numbers were significantly higher than in former years. The Society’s Industry Partnerships also provided very valued support, and the related Industry Symposia were also well attended.

As the 2011 Meeting was also the 40th year since the original creation of the ICS, it was greatly valued that our Patron, HRH the Princess Royal, attended for the Gillian Hanson Lecture and to support the Honorary Memberships, Presidential and Whitaker Awards, all of which were very much appreciated.

Information achieved from all attendees who have responded to the request for feedback has been very positive, and it is very much hoped that this will ensure that the attendance will be similar or even greater for the 2012 State of the Art Meeting. As many of the invited lecturers and the attendees had come from countries all over the world it is very much hoped that this will also increase, and we very much look forward to meeting up with those who decide to join us in December this year.

References
For his final category of papers, Professor Singer addressed the notion that basic science can translate into intensive care – eventually, at least. One example he used was the work of WD Docke examining inflammation and monocyte deactivation in septic patients.

“They argued ‘well hang on, rather than trying to block inflammation when the patients are already in immunosuppression, we enhance it’,” he said.

“They gave interferon gamma to boost the immune response, and it worked.”

In his concluding remarks, Professor Singer said that it was this “thinking outside of the box” that was particularly important. “The message is, you can do basic science in patients which hopefully steers us toward a better mechanistic understanding,” he said in closing.

When they looked at the data, predominantly affecting generally young people in multi-organ trauma, the only thing that had changed was the use of sedation,” he said. In this particular case the excess mortality stemmed from the use of etomidate - a drug that found its way into intensive care via re-appropriation from anaesthesia. This supports the principle that despite best intentions, new therapies do have to be carefully watched.

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