International Journal of Surgery 12 (2014) 742–743

Contents lists available at ScienceDirect

International Journal of Surgery

journal homepage: www.journal-surgery.net

Editorial

Editor's perspectives – July 2014

Is medicine an art or a science? This is a question I often ponder.

Years ago I met a fascinating modern Renaissance surgeon in his home city of San Francisco. Leonard Shlain. He had just published a book entitled "ART and PHYSICS" (Morrow-1991) which he gave to me, suitably inscribed, after we had discussed the art and science in surgery. It still remains one of the most remarkable books I have ever read. Leonard posed the following question to himself – Is there a connection between the inscrutability of modern art and the impenetrability of the new physics? Each chapter is fascinating but I especially enjoyed the ones on Cubism and Space and Newton's apples and Cezanne's apples.

It would appear that art and science continued through the ages on parallel tracks and it was only with Leonardo da Vinci that these tracks merged. Shlain suggested that Leonardo could integrate the two halves of his divided psyche, i.e. integrating the two hemispheres of his brain. I cannot remember how he responded to my question to him on medicine being an art or science as we became so enwrapped in art and science. However, I feel sure he agrees with me that surgery is both art and science, but with the advance of technology science has taken the major role. It was easy once to diagnose death, yet now we know there are cases of "the locked in syndrome" which can be recognized by advanced investigatory tools. In days of yore there was a definite art in making a diagnosis based on deductive thinking and experience. Nowadays, blood tests and scanning have made making a diagnosis much more of a science. I still remember my Professor of Medicine asking me why I had performed a serum calcium without reason when I was his intern and unwittingly diagnosed hyperparathyroidism. Now over 80% of cases of hyperparathyroidism are picked up by chance screening.

So is there any art left in surgery. I still like to teach my students that diagnosis is like working out a detective novel. Make it from taking a careful history if that is possible; if not then from a thorough examination and more often than not that is all that is required and investigations confirm your diagnosis. In technical surgery, routine technical procedures are more and more science based with robots, intra-operative ultra-sound, MRI or endoscopy. However, when things are not straightforward or often in the emergency situation, that is when art comes in to play in my opinion. I recall the quote "his surgery was poetry in motion" – what an accolade which comes from the art as well as the science of surgery in my opinion.

Half this issue deals with gastro-intestinal/hepato-biliary clinical articles. The other half is a great mix of historical pathology/orthopaedic fracture surgery/experimental research/oncology and a cardiac paper. It seems right somehow to commence with the historical review of lung cancer cell carriage. The Nigerian authors reviewed most of the 19th century medical literature on the anomalous phenomenon that these cancer cells failed to cross the midline to the other lung, despite it being the most eligible of sites. Whilst on pathology I thought the comparative study from Israel on 2 different methods to retrieve lymph nodes post gastrectomy is not only important but all surgeons should coerce their histopathologists into using the acetone clearing technique.

Turning to the orthopaedic articles both address trauma and both come from China. The first compares primary and delayed wound closure after severe open tibial fractures showing no significant differences in outcome, whilst the second studied 29 cases of mid-clavicular fractures treated by a minimally invasive technique using a locking reconstruction plate which seems to be a good procedure.

It is always satisfying to include experimental research papers. I thought the last word had been written on adhesions; however, from Turkey there is a study on heparin use to diminish adhesions in the rat model which they postulate is by an anti-thrombotic activity that can be abolished by the addition of protamine. From Taiwan there is a clinical research article on the TERT promoter mutation in resectable hepato-cellular cancer which is associated with Hepatitis C infection but absent with Hepatitis B. TERT is frequently found in malignant melanoma and other malignancies but unknown in HCC.

We do not receive that many cardiac papers, so it is pleasing to include the paper from Brazil on the patency of skeletonized vs pedicled internal thoracic artery use in coronary artery bypass surgery. They reviewed 5 studies with over 1750 patients and showed there was no difference in terms of patency. It is rare also to publish a paper on endoscopy especially from the endoscopist's safety point of view. Our Turkish authors performed a study on 54 physicians and 34 nurse endoscopists with respect to how adequately they protected themselves against infection. Most did not effectively apply the universal precautions against infectious risks and had not received basic training. Brazil and Turkey also provide the next 2 papers I wish to mention. An observer-blind randomized trial between electrocautery and a conventional scalpel with respect to surgical site infection was carried out in 331 women following gynaecological operations. There was no difference in infection rates so the Brazilian authors state this does not justify a surgeon opting to use a scalpel. However, I must point out my own experimental work many years ago showing that diathermy delayed healing. The other Turkish paper demonstrates the impact of primary tumour resection in colo-rectal cancer patients with unresectable distant metastases. There is a definite survival benefit without increasing post-operative mortality.

Turning to the upper gastro-intestinal tract, it was interesting to read from China that there were no significant differences in complications or mortality following different pancreatico-enteric

http://dx.doi.org/10.1016/j.ijsu.2014.06.002

reconstructions following pancreatico-duodenectomy when they reviewed the medical literature. Also from China there is an important paper on early post-operative feeding following laparoscopic distal gastrectomy. Hospital stay was reduced and the time till flatus passed decreased. From Korea we learn following a survey performed 5 years after total gastrectomy that this operation does not result in living a carefree state in terms of quality of life. Patients still needed extended care due to symptomatic behavioural and financial consequences.

Moving back to South America, there is a paper from Chile on uncomplicated liver hydatid cysts; risk factors include age and cyst location. Europe also provides contributions with an important randomized controlled trial between Toupet and Dor anti-reflux procedures following Heller's myotomy for achalasia. The Toupet partial posterior fundoplication had better outcomes with respect to oesophageal emptying and functional scales scores, but otherwise there were no differences noted. Our French colleagues reviewed day case appendicectomy in adults. They analysed the results from 13 studies (8 retrospective, 4 prospective and 1 case controlled) comprising 1152 patients of who 312 (27%) were discharged within 12 h, 614 (52%) within 24 h and 71 (21%) between 24 and 72 h. Their conclusions are that day case appendicectomy is feasible but more prospective studies are needed. My unanswered comment about this paper is that there is no indication as to whether the operations were performed by an open or laparoscopic approach.

The last 3 articles are all on aspects of gall stone surgery. The first I shall mention as to whether CRP is a useful adjunct in selecting patients for emergency cholecystectomy by predicting severe/gangrenous cholecystitis comes from the UK. It seems that CRP on its own has a high predictive value in predicting gangrenous cholecystitis. The next paper, also from the UK, is a meta-analysis of 11 comparative studies between laparoscopic ultra-sound vs. intra-operative cholangiogram for the detection of CBD stones at laparoscopic choleycstectomy. There were no significant differences in pooled sensitivity or specificity between the two investigations. The authors conclude operative U/S is a useful imaging modality to confirm the absence of CBD calculi without the need for cannulation or radiation. However they do not address its availability, the learning curve for accurate interpretation or time taken. Finally from China there is a paper on laparoscopic CBD exploration with primary closure of the choledochotomy incision after failed endoscopic sphincterotomy with attempted clearance. 78 patients failed stone extraction and underwent laparoscopic CBDE the following day. There were 6 conversions for impacted stones and 13 bile leaks occurred but all resolved spontaneously. Excellent results with no mortality or other morbidity.

From these world wide contributions I feel the answer to my earlier question has been vindicated – Surgery is a wonderful mix still of art and science. We can debate the percentages in future issues.

R. David Rosin, Professor
University of the West Indies, Barbados
E-mail address: rdavidrosin@gmail.com.

Available online 11 June 2014