SELECTED ABSTRACTS

Editor - Rohan Siriwardena

Pneumatic dilation versus laparoscopic Heller's myotomy for idiopathic achalasia

Boeckxstaens GE, Annese V, des Varannes SB, Chaussade S, Costantini M, et.al.

N Engl J Med. 2011 May 12; 364(19):1807-16.Abstract

Background

Many experts consider laparoscopic Heller's myotomy [LHM] to be superior to pneumatic dilation for the treatment of achalasia, and LHM is increasingly considered to be the treatment of choice for this disorder.

Methods

We randomly assigned patients with newly diagnosed achalasia to pneumatic dilation or LHM with Dor's fundoplication. Symptoms, including weight loss, dysphagia, retrosternal pain, and regurgitation, were assessed with the use of the Eckardt score [which ranges from 0 to 12, with higher scores indicating more pronounced symptoms]. The primary outcome was therapeutic success [a drop in the Eckardt score to ≤3] at the yearly follow-up assessment. The secondary outcomes included the need for retreatment, pressure at the lower esophageal sphincter, esophageal emptying on a timed barium esophagogram, quality of life, and the rate of complications.

Results

A total of 201 patients were randomly assigned to pneumatic dilation [95 patients] or LHM [106]. The mean follow-up time was 43 months [95% confidence interval [CI], 40 to 47]. In an intention-to-treat analysis, there was no significant difference between the two groups in the primary outcome; the rate of therapeutic success with pneumatic dilation was 90% after 1 year of follow-up and 86% after 2 years, as compared with a rate with LHM of 93% after 1 year and 90% after 2 years [P=0.46]. After 2 years of follow-up, there was no significant between-group difference in the pressure at the lower esophageal sphincter [LHM, 10 mm Hg [95% CI, 8.7 to 12]; pneumatic dilation, 12 mm Hg [95% CI, 9.7 to 14]; P=0.27]; esophageal emptying, as assessed by the height of barium-contrast column [LHM, 1.9 cm [95% CI, 0 to 6.8]; pneumatic dilation, 3.7 cm [95% CI, 0 to 8.8]; P=0.21]; or quality of life. Similar results were obtained in the per-protocol analysis. Perforation of the esophagus occurred in 4% of the patients during pneumatic dilation, whereas mucosal tears occurred in 12% during LHM. Abnormal exposure to esophageal acid was observed in 15% and 23% of the patients in the pneumatic-dilation and LHM groups, respectively [P=0.28].

Conclusions

After 2 years of follow-up, LHM, as compared with pneumatic dilation, was not associated with superior rates of therapeutic success. [European Achalasia Trial Netherlands Trial Register number, NTR37, and Current Controlled Trials number, ISRCTN56304564.]

Commentary

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Gastro-oesophageal reflux disease [GORD] is a common condition with a prevalence of 10% in the western world [5% in Asia]. The majority can be managed with proton pump inhibitors and life style modifications. At the outset, patients with achalasia of the cardia may present with symptoms that are similar to GORD, and it is essential to identify the possibility of achalasia since initial investigation may have to include

a contrast swallow study. The world over, there is a reluctance in accepting surgery, both by patients and physicians. This multi center study has shown comparative results for those who balloon dilate the lower oesophageal sphincter as for those who prefer a myotomy procedure. Not addressed in this study is the cost efficacy - in Sri Lanka, balloon dilatation may be seen as a more cost-effective procedure over an operative Heller's cardiomyotomy. Furthermore, gastrointestinal physiology measurements would need to more widely available to better evaluate potential candidates for these procedures.

Randomized clinical trial of stents versus angioplasty for the treatment of iliac artery occlusions (STAG trial)

Goode SD, Cleveland TJ, Gaines PA; STAG trial collaborators.Br J Surg. 2013 Aug;100(9):1148-53.

Background

The management of total iliac artery occlusion is now undertaken routinely using percutaneous techniques but there are no controlled data to indicate whether either balloon angioplasty or stent placement is preferable. This was a multicentre randomized trial to assess whether stents confer any safety or efficacy advantage over balloon angioplasty for complete iliac artery occlusion.

Methods

Six participating centres recruited patients with symptoms of lower limb peripheral arterial disease due to iliac artery occlusion 8 cm or less in length. Patients were assigned randomly to either percutaneous transluminal angioplasty (PTA group) or primary stent placement (stent group) alone after the lesion had been traversed with a guidewire.

Results

There were 118 patients recruited to the study; six were excluded from the analysis owing to major protocol violations, leaving a total of 112 patients for analysis. Some 55 patients had PTA and 57 had a primary iliac stent. Technical success was achieved in 46 patients (84 per cent) in the PTA group and 56 (98 per cent) in the stent group (P = 0·007). There were 11 (20 per cent) major procedural complications after PTA compared with three (5 per cent) after primary stenting (P = 0·010). There were no significant differences in primary or secondary patency between the groups after 1 and 2 years.

Conclusion

Primary stent placement for iliac artery occlusion increased technical success and reduced major procedural complications (predominantly distal embolization) compared with balloon angioplasty.

Commentary

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The percutaneous technique is the method of choice for the treatment of most iliac vessel disease. Short segment lesions (TransAtlantic Inter-Society Consensus-TASC type A & B) can be treated successfully by angioplasty alone. This gives a comparable result to the open method with less morbidity and low cost.

TASC C& D lesions that have long stenosis or total occlusion are prone to develop thrombosis and distal embolization following angioplasty. Such complications are believed to be less after primary stenting. This multi centre randomized trial was done to investigate the safety and efficacy of primary stenting over angioplasty for the treatment of TASC C&D lesions.

The study concludes, primary angioplasty can achieve equal long-term patency rates as primary stenting of totally occluded iliac artery lesions 8cm or less. Only 9 patients (16%) required a selective stent in the former

group.

Again, the safety of the primary stenting was proven over angioplasty and selective stenting in this study as well as in previous studies. The latter group had a significantly large number of limb threatening distal embolization and immediate or early thrombosis of the treated vessel. Despite such complication, it is worthy of note that all these complications were managed successfully without limb loss. These are lesions that one would treat by open methods using laparotomy in countries with limited resources. Patients who developed distal embolization can also be managed without a laparotomy.

In conclusion, as stents are very costly and hard to come by in developing countries, primary angioplasty and selective stenting is still a viable option over primary stenting in Sri Lankan practice. Prompt detection and treatment of complications is vital to prevent limb loss.

Distance learning improves attainment of professional milestones in the early years of surgical training

Smith PJ, Wigmore SJ, Paisley A, Lamb P, Richards JM, Robson AJ, Revie E, McKeown D, Dewhurst D, Garden OJ.

Ann Surg. 2013 Nov; 258(5):838-42;

Abstract

Background

The study was conducted to assess the impact of a surgical sciences e-learning programme in supporting the academic development of surgical trainees during their preparation for professional examination. In 2007, a 3-year online part-time Master of Surgical Sciences [MSc] degree programme was launched, utilizing an innovative platform with virtual case scenarios based on common surgical conditions addressed by the curriculum relating to the Membership Examination of the Royal Colleges of Surgeons [MRCS]. Multiple-choice questions with feedback and discussion boards facilitated by expert clinical tutors provided formative assessment. Summative assessment comprised written examination at the end of each of the first 2 years [equivalent to MRCS level], culminating in submission of a research dissertation in year 3 toward an MSc.

Methods

Students' age, gender, and level at entry to the programme were documented. Anonymized student feedback from 2008 to 2012 was examined using online questionnaires, and performance in the MSc programme was compared to MRCS examination outcomes for students who had consented to release of their results.

Results

A total of 517 surgical trainees from 40 countries were recruited over the 6-year period, and 116 MSc students have graduated to date. Of 368 students, 279 [76%] were foundation doctors [interns] and had not commenced formal surgical training on enrolling in the MSc programme. However, level at entry did not influence performance [$P > 0.05$ across all 3 years]. Average pass rates since the programme launched, for those students completing all of the required assessments, were 84% ± 11% in year 1, 85% ± 10% in year 2, and 88% ± 7% in year 3 of the MSc programme. MSc students had significantly higher MRCS pass rates than non-enrolled trainees [67% vs. 51%, $P < 0.01$, $n = 352$]. There was a significant correlation between MRCS examination performance and overall performance in the MSc [$R = 58\%$; $P < 0.01$, $n = 37$]. Of 248 respondents, 202 [81%] considered that the MSc would improve their chances of gaining a surgical training post, and 224 [90%] would recommend the programme to their peers.

Conclusions

The online MSc programme supports academic development of trainees in the early years of surgical training, is well received by students, and is associated

with improved success in their professional examination

Commentary

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There is considerable potential for distance learning programs to have a major impact on future delivery of surgical training. The data from this study are relatively immature to determine whether it has contributed to a major change, but it has demonstrated that this e-learning program supports the academic development of trainees in the early years of surgical training, is well received by students, and is associated with improved success in their professional examination.

Although many surgical trainees from different countries were recruited over a period of time the relevance of such a program has not been yet determined in our country. Whether this kind of distance learning programs are of any use other than the submission of a research dissertation has to be tested before it is introduced to our syllabus. The research dissertation is of great value as many individuals go on to publish their work in peer reviewed journals.

It would be a good study to undertake to set up a similar program (well-constructed with well-defined learning objectives) to see whether it is feasible as well as rewarding to the distance learner.

Radical prostatectomy versus observation for localized prostate cancer.

Wilt TJ, Brawer MK, Jones KM, Barry MJ, Aronson WJ, Fox S, et.al.

N Engl J Med. 2012 Jul 19; 367(3):203-13

Abstract

Background

Life time risk of prostate cancer is 17% while the risk of dying from it is 3%. This suggests that conservative treatment is an option.

Methods

Histologically proven clinically localized prostate cancer (T1 –T2, Nx M0) were enrolled. Inclusion criteria were age ≤ 75 years, PSA high but <50 ng/ml, medically fit for radical prostatectomy, any biopsy grade, negative bone scan and life expectancy ≥ 10 years. Recruitment was from November 1994 to December 2002.

The patients were randomly assigned to Observation (OG) or radical prostatectomy (RPG). The technique for radical prostatectomy was at the surgeon's discretion. Follow-up was every six months for 10 years. Bone scans were done every 5 years or earlier if symptomatic.

Primary end points were death from any cause or due to prostate cancer. Sub analysis was done for age, race, Charlson comorbidity index, performance status, PSA level, Gleason grade and D'Amico tumor risk score.

Results

Among 13,022 men with prostate cancer, 731(14.6%) were randomized to RPG (364 men) and OG (367 men). Median survival in the RPG group was 13 years compared to 12.4 years in OG. 171 (47%) died in RPG compared to 183(49.9%) in OG. Of 52 men, who died purely due to prostate cancer, 21(5.8%) were in the RPG group vs. 31(8.4%) in the OG group. In subgroup analysis relative risk reduction of mortality with surgery was 13.2% with PSA≥ 10 31% with Gleason score ≥ 7 and 6.7% in high risk tumours compared to OG.

Conclusions

After median follow up of 10 years, follow up radiocal prostatectomy for clinically localized prostate cancer did not reduce mortality when compared to observation.

Commentary

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Since there was a relative risk reduction in prostate cancer mortality in PSA ≥ 10 ng/ml, in intermediate and high risk groups, radical prostatectomy should be offered as a management option. In this study only 10% of patients were below 60 years which is a small number. The follow up was too short for slowly growing cancer with localized disease. Therefore, even in low risk disease, in young patients, a surgical option should be considered since it provides an opportunity of cure until long term data is available. Also the heterogeneous nature of prostate cancer warrants wide spread use of PSA and transrectal 12-14 core biopsies for diagnosis prior to determining the treatment options in our practice. Treating patients with digitally directed biopsy and without a PSA is not justified.