SURGICAL EVIDENCE

By
Egyptian Group for Surgical Science and Research
A. Hazem Helmy, EGSSR Moderator
Nabil Dowidar
Said Rateb
Mohamed Farid
Ahmed Hussein

Correspondence to: Nabil Dowidar, Email: nabil_dowidar@hotmail.com

We present published evidence on surgical practice that does not require specialized training or significant resources for its implementation. Surgeons are advised to read the full text of the evidence before following the study conclusions.

Laparoscopic inguinal hernia repair in men with lightweight meshes may significantly impair sperm motility: a randomized controlled trial

Peeters E, Spiessens C, Oyen R, De Wever L, Vanderschueren D, Penninckx F, et al
Ann Surg. 2010;252:240-6.

Objective: To compare quality of life and fertility aspects after laparoscopic inguinal hernia repair in men using a heavyweight or lightweight mesh. SUMMARY BACKGROUND DATA: The use of lightweight meshes in laparoscopic inguinal hernia repair could have beneficial effects on quality of life and preservation of the spermatic structures due to a decreased foreign-body reaction.

Methods: A total of 59 male patients planned for primary, unilateral or bilateral inguinal hernia repair were randomized between a standard polypropylene (Marlex) or lightweight mesh (Vypro II, TiMesh). Main outcome measures were fertility aspects, assessed preoperatively and at 1-year follow-up by semen analysis and scrotal ultrasonography. Secondary outcomes were quality of life (SF-36 and McGill Pain Questionnaire) and recurrence up to 1 year postoperatively.

Results: Patients operated on with a VyproII or TiMesh mesh exhibited a decreased sperm motility (vs. preoperatively) compared with Marlex patients, respectively -9.5% and -5.5% versus +2% (P = 0.013). When the results after uni- and bilateral hernia repair were analyzed separately, this difference only remained significant in the bilateral hernia subgroup: -10% for VyproII and -17% for TiMesh versus +1% for Marlex (P = 0.037). Other fertility parameters (sperm concentration, morphology, and alpha-glucosidase level) were unchanged. There were no differences at any study point between the 3 groups regarding quality of life. Only for resumption of sport activities was a small advantage noted for VyproII versus Marlex patients (P = 0.045). After 1 year, no recurrences were observed; 3 patients (6%) complained of chronic disabling pain.

Conclusions: Our data suggest that the use of lightweight meshes for laparoscopic inguinal hernia repair in male patients negatively influences sperm motility, without any benefit on quality of life. These alterations might be important in a subgroup of young male patients operated on laparoscopically for a bilateral hernia. This study was registered in the clinicaltrials.gov database.

Elastic compression stockings for prevention of deep vein thrombosis

Sachdeva A, Dalton M, Amaragiri SV, Lees T

Newcastle Medical School, University of Newcastle upon Tyne, Newcastle upon Tyne, Tyne & Wear, UK, NE1 7RU.
Cochrane Database Syst Rev. 2010;7:CD001484.

Background: One of the settings where deep vein thrombosis (DVT) in the lower limb and pelvic veins occurs is in hospital with prolonged immobilisation of patients for various surgical and medical illnesses. Using graduated compression stockings (GCS) in these patients has been proposed to decrease the risk of DVT. This is an update of a Cochrane review first published in 2000 and updated in 2003.

Objectives: To determine the magnitude of effectiveness of GCS in preventing DVT in various groups of hospitalised patients.

Search Strategy: For this update the Cochrane Peripheral Vascular Diseases Group searched their Specialised Register and the Cochrane Central Register of Controlled Trials (CENTRAL) (The Cochrane Library 2009, Issue 4) for randomised controlled trials of elastic or graduated compression stockings for prevention of DVT.

Selection Criteria: Randomised controlled trials (RCTs) involving GCS alone; or GCS used on a background of any other DVT prophylactic method.

Data Collection and Analysis: One author extracted the data, assessed the quality of trials and analysed the results; which were cross-checked and authenticated by a second author.

Main Results: Eighteen RCTs were identified. GCS were applied on the day before surgery or on the day of surgery and were worn up until discharge or until the patients were fully mobile. In the majority of the included studies DVT was identified by the radioactive I(125) uptake test.For GCS alone, eight RCTs were identified involving 1279 analytic units (887 patients). In the treatment group (GCS), of 662 units, 86 developed DVT (13%) in comparison to the control group (without GCS) of 617 units where 161 (26%) developed DVT. The Peto's odds ratio (OR) was 0.35 (95% confidence interval (CI) 0.26 to 0.47) with an overall effect favouring treatment with GCS ($P < 0.00001$). For GCS on a background of another prophylactic method, 10 RCTs were identified involving 1248 analytic units (576 patients). In the treatment group (GCS plus another method), of 621 units, 26 (4%) developed DVT, in the control group (the other method alone), of 627 units, 99 (16%) developed DVT (OR 0.25, 95% CI 0.17 to 0.36). The overall effect also favoured treatment with GCS on a background of another DVT prophylactic method ($P < 0.00001$).

Authors' Conclusions: GCS are effective in diminishing the risk of DVT in hospitalised patients. Data examination also suggests that GCS on a background of another method of prophylaxis is more effective than GCS on its own.

Systematic review and meta-analysis of the use of fibrin sealant to prevent seroma formation after breast cancer surgery

Carless PA, Henry DA

Discipline of Clinical Pharmacology, School of Medicine and Public Health, University of Newcastle, Newcastle, Australia. Paul.Carless@newcastle.edu.au.
Br J Surg. 2006;93:810-9.

Background: The use of fibrin sealant has been proposed as a means of preventing seroma formation following breast cancer surgery. Conflicting trial results require the efficacy of fibrin sealant to be reviewed critically.

Methods: A systematic review of randomized controlled trials was conducted to examine the efficacy of fibrin sealants in reducing postoperative drainage and seroma formation after breast cancer surgery. Studies were identified by computer searches of Medline, Embase, the Cochrane Central Register of Controlled Trials and manufacturer websites (to June 2005), and bibliographic searches of published articles. Trials were eligible for inclusion if they reported data on postoperative drainage and the number of patients who developed a seroma.

Results: Eleven trials met the criteria for inclusion. Generally, the trials were small and of poor methodological quality. Fibrin sealant did not reduce the rate of postoperative seroma (relative risk 1.14, 95 per cent confidence interval (c.i.) 0.88 to 1.46), the volume of drainage (weighted mean difference - 117.7, 95 per cent c.i. - 259.2 to 23.8 ml), or the length of hospital stay (weighted mean difference - 0.38, 95 per cent c.i. - 1.58 to 0.83 days).

Conclusions: The current evidence does not support the use of fibrin sealant in breast cancer surgery to reduce postoperative drainage or seroma formation.