



Indian Surgeons Demonstrate: Surgical Expertise and Ingenuity is More Important than the Type of Material

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Indian surgeons demonstrate that surgical expertise and ingenuity are more important than the type of material used in hernia repair. The Prolene Hernia System (PHS) was created to simplify hernia repair while improving postoperative recovery [1]. It combines the Lichtenstein technique with the Stoppa procedure, or aspects of the open procedure with the laparoscopic approach to hernia repair.

But the cost for meshes are high, sometimes higher than the reimbursement paid to surgeons. As a consequence, surgeons in India try to circumvent the use of high-priced meshes and develop "equivalent" systems that cost a tenth of the mesh device. Chauhan and colleagues report their randomized controlled study comparing the PHS system to a homemade bi-layered mesh device. They were able to demonstrate that their device is similar to the PHS with regard to outcome. It is acknowledged that this is a pilot study and more experience is needed for a final evaluation. However, this brings up several questions with regard to the developments of meshes in hernia surgery.

Recent studies have shown that open-mesh anterior inguinal hernia repair can be performed in primary inguinal hernia with a low recurrence rate, no intraoperative complications, and no serious postoperative complications [2]. So, what is the place of PHS? Sanjay et al. [3] demonstrated that there is no significant difference in the early and long-term outcomes between PHS and Lichtenstein hernia repair. There are conflicting results with regard to the operating time [3, 4]; otherwise, does it really matter that hernia repair is done in 36 minutes or 34 minutes (with the exception when a surgeon pays per minute for the use of the operating

room), and where does this lead us? [5]. To get down to brass tacks, the primary objective is to perform an inguinal hernia repair without intraoperative complications, with a low recurrence rate, and with only minor loss of quality of life after the operation. The principal technique of placing mesh behind the transversalis fascia—PHS or Perfix Plug—requiring dissection in the highly complex preperitoneal space can lead to injury of pelvic structures and may be harmful with regard to future treatment [6].

Although Nienhuijs and co-workers [7], who have compared PHS, mesh plug, and the Lichtenstein procedure, did not find differences between the three types of repair with regard to pain, the type and the amount of mesh may have an impact on healing postoperatively [8, 9]. The use of PHS may avoid the complication of mesh plug migration, but does it avoid complications such as colonic fistula? [10, 11] Licheri et al. [12] are among the few investigators suggesting that the use of PHS should be reserved for certain types of hernia—e.g., large defect of the posterior floor. The bone of contention is do we surgeons pave the way for the marketing departments of the mesh industry, cutting down our own budget and credibility, or do we "get cracking" to find out where to use this device to maximum advantage? Chauhan and his colleagues in India have shown us how they handle it.

References

1. Klaristenfeld DD, Mahoney E, Iannitti DA (2005) Minimally invasive tension-free inguinal hernia repair. *Surg Technol Int* 14:157–163
2. Holzheimer RG (2007) Low recurrence rate in hernia repair—results in 300 patients with open mesh repair of primary inguinal hernia. *Eur J Med Res* 12:1–5

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3. Sanjay P, Harris D, Jones P, et al. (2006) Randomized controlled trial comparing Prolene Hernia System and Lichtenstein method for inguinal hernia repair. *Aust N Z J Surg* 76:548–552
4. Vironen J, Nieminen J, Eklund et al. (2006) Randomized clinical trial of Lichtenstein patch or Prolene Hernia System for inguinal hernia repair. *Br J Surg* 93:33–39
5. Kingsnorth AN, Wright D, Porter CS, et al. (2002) Prolene Hernia System compared with Lichtenstein patch: a randomised double blind study of short-term and medium-term outcomes in primary inguinal hernia repair. *Hernia* 6:113–119
6. Amid PK. (2005) Groin hernia repair: open techniques. *World J Surg* 29:1046–1051
7. Nienhuijs SW, van Oort I, Keemers-Gels ME, et al. (2005) Randomized trial comparing the Prolene Hernia System, mesh plug repair and Lichtenstein method for open inguinal hernia repair. *Br J Surg* 92:33–38
8. Langenbach MR, Schmidt J, Zirngibl H (2003) Comparison of biomaterials in the early postoperative period. Polypropylene meshes in laparoscopic inguinal hernia repair. *Surg Endosc* 17:1105–1109
9. Horstmann R, Hellwig M, Classen C, et al. (2006) Impact of polypropylene amount on functional outcome and quality of life after inguinal hernia repair by the TAPP procedure using pure, mixed, and titanium-coated meshes. *World J Surg* 30:1742–1749
10. Fortelny R, Sporn S, Gero A (2002) PHS—a double-leaved mesh in the open surgery of inguinal hernias. *Zentralbl Chir* 127:578–582
11. Murphy JW, Misra DC, Silverglide B (2006) Sigmoid colonic fistula secondary to Perfix-plug, left inguinal hernia repair *Hernia* 10:436–438
12. Licheri S, Erdas E, Martinasco L, et al. (2004) Treatment of inguinal hernia with the Prolene Hernia System (P.H.S.). *Chir Ital* 56:127–134