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Interview

Interview with Professor Pierre Costa Minimally Invasive Treatment of Female Stress Urinary Incontinence

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Dr. Pierre Costa has been the head of the Department of Urology at the Centre Hospitalier Caremeau in Nimes since 1996. He obtained his medical degree from the Medical Faculty of Medicine and then attended the University of Montpellier, where he obtained his PhD in 1993. In 1994, he became Director of Research at the University of Montpellier and in 1995, became Professor of Urology. He is a member of several Urological Associations. His clinical and research interests are in the fields of andrology and urinary disorders. He is an active researcher, has conducted several lectures and has published numerous medical articles.

There are a number of minimally invasive procedures for female stress urinary incontinence (SUI). What are the principle benefits they offer and what are the main minimally invasive procedures currently performed?

The laparoscopic Burch colposuspension (LBC) and tension free vaginal tape (TVT) and transobturator tape (TOT) procedures are today at the forefront of minimally invasive incontinence treatments. Such procedures avoid the major incisions involved in conventional open surgery and should result in equivalent efficacy with the benefits of a shorter hospital stay, less pain and morbidity and an earlier return to daily activities. Indeed, surgeons are very focused on efficacy and safety, but hospital stay and return to normal activity are also both significant factors in the health economic evaluation of therapy. We also know that the elderly population is growing worldwide; the number of people aged over 65 years has multiplied 12-fold in occidental countries. Urinary incontinence is a huge social and medical issue for the older female population. It can often make an enormous impact on an older woman's ability to live independently at home, live in an assisted facility or live in a nursing home when required. Recent literature suggests that, independently with an increased risk of age-related morbidities, currently performed procedures for SUI are also safe and effective in older women [1].

What is the comparative efficacy of the LBC and the TVT/TOT procedures?

Nine studies involving a comparison of laparoscopic with the open colposuspension have been analyzed in the last Cochrane review [2]. The conclusion of the authors was that the long-term performance of LBC remains unknown and that whilst the women's

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subjective impression of cure seemed similar for both procedures, there was some evidence of poorer results with the LBC with regard to objective outcomes within 18 months. For TVT/TOT, numerous non-comparative studies have reported a very high efficacy of the order of 80% even with a medium-term follow-up of 7 years (81%) [3]. A recently published meta-analysis of LBC versus TVT studies identified seven randomised controlled trials and found no significant difference in subjective cure rates [4]. However, the number of patients in each trial was low; the largest study had 70 patients in each arm and the total number randomised was 264 LBC and 290 TVT patients. In a prospective randomised trial comparing TVT and the open Burch colposuspension, the objective cure rates were not significantly different at 2 years (81 vs. 80%, respectively) [5]. However, if the missing patients were evaluated using the Last Observation Carried Forward analysis, then the cure rates would favour TVT (78 vs. 68%) [6].

There has been some concern over complications associated with the sling procedures. How do the risks compare with laparoscopic surgery for SUI?

Perioperative complications such as bladder or urethral perforations have indeed been reported during TVT/TOT implantations [7]. Nonetheless, LBC is not without surgical risks; 18 bladder injuries were reported from 520 laparoscopic procedures [2]. Randomised controlled trials suggest no difference in the perioperative complication rates between LBC and TVT/TOT procedures [2]. Erosion, defective healing and mesh extrusion can occur during follow-up with TVT/TOT, but such complication rates are very low when the tape used is polypropylene type I [8]. Laparoscopic procedures are claimed to be less painful than open surgeries and this is also true for the TVT/TOT procedures [2]. Length of in-patient stay and the time to return to normal activities does favour TVT/TOT. The duration of indwelling catheterisation was reported to be longer in LBC in three trials and longer in the TVT/OT group in only one [2]. Regarding perioperative analgesia, the TVT/TOT procedures can be performed under local or spinal while LBC needs a general anaesthesia. This is not significant in young and healthy women but could be of greater importance in old and frail patients. In order to avoid certain serious perioperative complications, such as intestinal injuries, the TOT procedure seems to be recommended in patients who have previously undergone multiple open procedures.

What about other comparative differences between LBC and the sling procedures, such as quality of life and socioeconomic measures?

The majority of studies have reported a significant comparable improvement in quality of life measures with both the LBC and the TVT/TOT [9]. However, one study reported a significant difference at 1-year post surgery in favour of the TVT procedure [10]. The procedural costs appear to be similar [2], but conflicting results have been reported in two studies. In one study, the LBC was significantly more expensive than the TVT and this might be due to the use of a mesh instead of sutures for the LBC. In the second study, the procedural costs were significantly lower for LBC than for TVT, but here the mean operating time (44.9 min) for TVT was longer than in any of the other reported studies [11]. Generally, LBC surgery takes a significantly longer time than TVT/TOT but in recent trials, the time has been reduced probably due to the considerable experience of the surgeons performing the procedure [12]. We also have to keep in mind that training is shorter with TVT/TOT procedures than with LBC.

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