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ORIGINAL ARTICLE

Comparison of functional outcomes with purely laparoscopic sacrocolpopexy and robot-assisted sacrocolpopexy in obese women

Comparaison des résultats fonctionnels de la promontofixation cœlioscopique vs robot-assistée dans une population obèse

M. Joubert[b], T. Thubert[a,*,b], J.-P. Lefranc[b], C. Vaessen[c], É. Chartier-Kastler[c], X. Deffieux[a], M. Rouprêt[c]

[a] *Service de gynécologie obstétrique et médecine de la reproduction, hôpital Antoine-Béclère, AP—HP, 157, rue de la Porte-de-Trivaux, 92140 Clamart, France*
[b] *Service de chirurgie gynécologie, hôpital La Pitié-Salpêtrière, AP—HP, 83, boulevard de l'Hôpital, 75013 Paris, France*
[c] *Academic department of urology, université Paris 6, Pitié-Salpêtrière hospital, Assistance publique—Hôpitaux de Paris, 83, boulevard de l'Hôpital, 75013 Paris, France*

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KEYWORDS
Genital prolapse;
Laparoscopy;
Obesity;
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Sacrocolpopexy

Summary
Objective. — To compare the functional outcomes and complication rates following laparoscopic sacrocolpopexy (LS) with those occurring in robot-assisted laparoscopic sacrocolpopexy (RALSCP) in obese women.
Patients and methods. — A comparative retrospective multicentre study was made, involving 39 obese women (BMI $\geq$ 30 kg/m^2) who underwent LS, and 17 obese women who underwent RASCLP. The operative parameters (length of operation, associated procedures, complication rate and length of hospitalization) and the objective and subjective results were evaluated at 12 months follow-up.
Results. — The median (IQR) BMI was 30.5 kg/m^2 (30—32) in the LS group vs 31.6 kg/m^2 (30—34) in the RALSCP group (P = 0.402). The anatomical results were comparable in both groups (LS vs

* Corresponding author.
E-mail address: thibault.thubert@gmail.com (T. Thubert).

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RALSCP): post-operative stage of prolapse (POP-Q-ICS): stage 0—1: 34/39 (88%) vs 16/17 (94.1%), $P = 0.7$; stage 2: 4/39 (10%) vs 0/17 (0%), $P = 0.7$; stage 3—4: 1/39 (2%) vs 1/17 (5.9%), $P = 0.7$. The complication rate was similar in both groups (LS vs RALSCP): bladder injury 2.5% (1/39) vs 0% (0/17), $P = 0.6$, laparoconversion 5.1% (2/39) vs 5.9% (1/17), $P = 0.5$. The overall reoperation rate was (LS vs RALSCP): 18% (7/39) vs 5.9% (1/17), $P = 0.4$.
Conclusion. — Laparoscopic sacrocolpopexy and robot-assisted laparoscopic sacrocolpopexy have equal results in obese women. The complication rates and outcomes appear to be similar in both groups of obese women.
Level of evidence. — 3.

MOTS CLÉS
Prolapsus génital ;
Cœlioscopie ;
Obésité ;
Chirurgie robot-assistée ;
Promontofixation

Résumé
But. — Le but de notre étude était de comparer la voie cœlioscopique et la chirurgie robot-assistée dans une population obèse.
Matériels. — Étude rétrospective comparative multicentrique comparant deux techniques de promontofixation : cœlioscopie (groupe 1, $n = 39$) vs chirurgie robot-assistée (RALSCP) (groupe 2, $n = 17$). Les caractéristiques des patientes, les paramètres opératoires, complications et les résultats anatomiques à court terme (12 mois) ont été évalués.
Résultats. — L'IMC était de 30,5 kg/m^2 (30—32) dans le groupe 1 vs 31,6 kg/m^2 (30—34) dans le groupe 2 ($p = 0,402$). Les résultats anatomiques à court terme sont identiques dans les deux groupes : stade 0—1 : 34/39 (88 %) vs 16/17 (94,1 %) ; stade 2 : 4/39 (10 %) vs 0/17 (0 %) ; stade 3—4 : 1/39 (2 %) vs 1/17 (0 %), $p = 0,762$. Le taux de complication était similaire dans les deux groupes (cœlioscopie vs RALSCP) : plaie vésicale 2,5 % (1/39) vs 0 % (0/17), $p = 0,6$, laparoconversion 5,1 % (2/39) vs 5,9 % (1/17), $p = 0,5$. Le taux global de ré-intervention était de (cœlioscopie vs RALSCP) : 18 % (7/39) vs 5,9 % (1/17), $p = 0,4$.
Conclusion. — Les résultats de la promontofixation cœlioscopique et robot-assistée semblent comparables chez les femmes obèses en termes de résultats anatomiques et de complications.
Niveau de preuve. — 3.

Introduction

Pelvic organ prolapse (POP) is a common condition. By the age of 80, a woman's lifetime risk of undergoing a surgical procedure for stress urinary incontinence (SUI) or POP is estimated to be 11% [1]. A minimally invasive laparoscopic approach for the treatment of POP (sacrocolpopexy) has been developed in recent years, and has been shown to be comparable to conventional surgery in terms of functional outcome, whilst demonstrating all of the advantages of laparoscopy [2]. Obesity, which is defined by a body mass index (BMI) $\geq 30\,kg/m^2$, is endemic in industrialized countries. In 2008, the prevalence of obesity in the United States was estimated to exceed 30% in the adult population, and the combined age-adjusted prevalence of overweight and obesity among women was 64.1% (95% CI, 61.3%—66.9%) [3]. In 2010, an estimated 17% of adults were obese in the European Union [4].

POP surgery is required for some obese women, and sacrocolpopexy is considered to be one of the gold standards for the surgical treatment of POP. Since 2004, a robot-assisted laparoscopic approach to sacrocolpopexy (RALSCP) has been proposed as a viable alternative to the purely laparoscopic technique [5—7]. RALSCP appears to be a practical option for obese women, having similar rates of complication and equivalent outcomes to those reported for non-obese women [8]. One recent study compared the LS and RALSCP approaches in a normal-weight population [9]. However, there is currently no specific data comparing LS and RALSCP in obese women. The aim of our study was thus to compare the operative and functional outcomes of LS and RALSCP in women with a BMI greater than $30\,kg/m^2$.

Methods

Population

In this study, we retrospectively reviewed all of the prospective data collected from obese female patients who had undergone RALSCP or LS between January 2008 and January 2013, and who had attended any one of five tertiary care centres in France. The following parameters were extracted from their charts: age at the time of surgery, BMI, menopause status, initial stage of genital prolapse (according to the Baden and Walker classification) [10], past medical history, obstetric and surgical histories, past prolapse treatment(s), date of the sacrocolpopexy procedure, operative and perioperative data, complications, anatomical results, and functional results.

Each patient underwent a pre-operative work-up, including urine analysis, a Pap smear, pelvic ultrasonography,