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Laparoscopic Early Puerperal Sterilization

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Abstract:

Objective*: systematic review and meta-analysis of various studies on early puerperal laparoscopic sterilization.*

Methods*: A systemic review was conducted. The literature was searched in Medline, embase and Cochrane database. All randomized controlled trials published in English were selected for screening based on following search terms; laparoscope, early puerperal sterilization, safety, pros and cons of early puerperal sterilization.*

Key words*: laparoscopy; early puerperal sterilization.*

Introduction:

Female sterilization is a permanent surgical contraception method whereby the female reproductive function is purposefully and permanently destroyed. An unexpected effect of female sterilization may be protection from ovarian cancer.[1]This protection may derive from interruption of utero-ovarian circulation or from closure of female tract, which would prevent substances in the vagina or uterus from reaching the ovaries. Alternatively, it has been speculated that tubal ligation may predispose women to formation of antibodies that protect against the development of ovarian cancer.[2] Procedures for female sterilization include; postpartum minilaparotomy soon after vaginal delivery, Interval minilaparotomy, laparoscopy and hysteroscopy. Laparoscopic early puerperal

sterilization is a new procedure in which patients are laparoscopically sterilized within 24 hours of delivery. Laparoscopic sterilization is preferred over minilaparotomy, as laparoscopic sterilization is less time consuming, offer cosmetic scar with minimal handling of tissues and eliminates the risk of incisional hernia.

Material and methods:

On basis of preferred reporting items for systematic review and meta-analysis, a systemic review was conducted. The literature was searched in Medline, embase and Cochrane database. All randomized controlled trials published in English were selected for screening based on following search terms; laparoscope, puerperal sterilization, safety, pros and cons of puerperal sterilization. All the relevant articles were selected on basis of reading the full text manuscripts. The eligibility criteria for inclusion were based on study design and outcome measurement. For study design only RCT representing technique for laparoscopic puerperal sterilization procedure done under regional anesthesia was included. For outcome measurement only studies reporting efficacy, advantages and disadvantages were included. To identify other relevant RCT's manual search was made in reference list of reviewed papers.

Results:

Search strategy identified 100 articles which were screened for inclusion, 10 articles were included in final review and rest was excluded. Among included articles seven articles evaluated efficacy and advantages of early puerperal sterilization, one articles evaluated minor complications and ligation failure. Remaining articles were grouped together as others and evaluated different techniques in laparoscopic sterilization .Due to heterogeneity of included studies; it was not possible to convert outcome measurement into dichotomous data or continuous data. In order to demonstrate overall effect therefore no estimate of meta-analysis are presented in this systematic review. Instead significant effect was demonstrated as; P value<0.005.

Discussion-

Sterilization is predominant method of contraception in the world. Laparoscopic methods of sterilization were introduced in early 1970s; this is accurately attributed to dramatic decrease in cost, operation time, hospital stay and pain. Early puerperal laparoscopic sterilization offers advantage of surgery within 24 hours of uneventful delivery, convenient to the patient with short hospital stay, avoiding the hassles of readmission. There have been various reports on puerperal laparoscopic tubal ligations .[3, 4,5,6,7] this study is meta- analysis of various studies already done on puerperal sterilization. Hundred studies were screened and only ten were included for final review. Most of the studies concluded that puerperal sterilization is safe, convenient, with low failure rate, cost effective and decreases hospital stay. In 2006, Alexander W Huber and Michael D Mueller evaluated the intra and post operative morbidity according to the method used for female sterilization and concluded that when available, a laparoscopic approach should be

chosen for female sterilization. After uneventful pregnancy course and delivery, it does not seem to justify to delay the endoscopic sterilization to a later time.[8] According to the Cochrane Collaboration, review, April 2004, Laparoscopy has fewer complications than the other forms of tubal ligation, but requires more skills and equipment.[9] in 1985, Lars Heisterberg, Poul Jessen, Erik Schroeder et al, compared the Interval and puerperal procedures showed no significant differences in complication rates, but puerperal laparoscopy had a significantly lower failure rate than interval procedures. It was found that women whose laparoscopy was carried out despite perioperative complications had a significantly higher risk of sterilization failure. It is concluded that puerperal laparoscopic sterilization with the tubal ring procedure is as safe as interval sterilization.[10] Michael Klaxke, Jens Erik Bruun Nielsen et al (1986) Laparoscopic sterilization in the puerperium with the Falope-ring technique is, in spite of minor surgical experience, associated with few and non-serious complications.[11]

Conclusion:

Following conclusion was drawn from this analytical study:

1. Laparoscopic early puerperal sterilization is effective, safe and cosmetic method of sterilization.

2. The duration of hospital stay is less as compared to other conventional methods of sterilization.

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