

## Capsule Summaries from the Literature

### **A Prospective Dose-Finding Study of the Amount of Thermal Energy Required for Laparoscopic Ovarian Diathermy.**

**Hum Reprod 2003, 18:1693-8.**

By Amer SAK, Li TC, and Cooke ID

Summarized by Gary N. Frishman, M.D.

Laparoscopic ovarian drilling is an accepted second-line therapy for inducing ovulation in women with polycystic ovary syndrome (PCOS). Despite many reports, no consensus exists as to the best approach or amount of energy delivered. This prospective study was designed to determine the optimal number of punctures to achieve ovulation in this population.

The authors first standardized the application of energy to 150 joules/puncture using a monopolar coagulating current setting of 30 W activated for 5 seconds by needle electrode. Thirty women with clomiphene-resistant PCOS were treated with four, three, two, or one puncture/ovary. Ovulation occurred in 67%, 44%, 33%, and 33%, and corresponding pregnancy rates were 67%, 56%, 17%, and 0%, respectively. Androgen levels were reduced only in women treated with three and four punctures/ovary.

The introduction of adjuvant therapy such as metformin has decreased the necessity of surgical intervention; however, ovarian drilling remains a viable option for appropriate patients. Although more than four punctures/ovary was not addressed, this study reported a response curve with four punctures/ovary yielding a 66% response rate.

### **Reduction of Postoperative Adhesions by N, O-Carboxymethylchitosan: A Pilot Study**

**Fertil Steril 2003, 80:631-6.**

By Diamond MP, Luciano A, Johns DA, Dunn R, Young P, and Bieber E

Summarized by Frances R. Batzer, M.D.

Although the causes of postoperative adhesion formation are many and relatively unpreventable, sequelae unfortunately are well known and predictable. The technique reported here, studied 34 patients in an attempt to prevent adhesions, is worth evaluating. This primary phase study used N,O-carboxymethylchitosan (NOCC), a purified derivative of chitin obtained from the exoskeleton of shrimp. It is structurally similar to hyaluronic acid and carboxymethylcellulose, both of which are beneficial in reducing adhesions and are effective in animals.

This was a prospective, placebo-controlled, parallel-group, reviewer-blinded study conducted at four clinical sites. Videolaparoscopy was performed to score adhesions

at 23 anatomic sites using a validated scoring system. After lysis of adhesions, with hemostasis achieved just before closing, patients were randomized to receive 300 mL of Ringer's lactate (controls) or 200 mL of NOCC gel and 100 mL of NOCC solution placed at adhesion sites. Second-look laparoscopy was performed 2 to 10 weeks later.

Sixteen patients in each group were evaluable. No adverse events were related to NOCC. Adhesions recurred at 61% of sites in controls and 38% of sites in the treated group. Although not statistically significant, adhesion extent and severity at second-look laparoscopy were less in NOCC recipients, as were de novo adhesions, indicating a strong and positive trend.

The discussion presents background in vitro cell culture and in vivo animal studies related to NOCC. The positive trend toward decreasing adhesions in subjects of this study, as well as the agent's safety record, suggests that NOCC may be beneficial. Further study is appropriate.

### **Minimal Surgery for the Twisted Ischaemic Adnexa Can Preserve Ovarian Function.**

**Hum Reprod 2003;18:2599-2602.**

By Oelsner G, Cohen SB, Soriano D, Admon D, Mashiach D, and Carp H.

Summarized by Gary N. Frishman, M.D.

This interesting article describes follow-up of adnexa that have undergone detorsion. Although other literature exists, this report provides the largest long-term follow-up.

The authors report 102 detorsions, two-thirds by laparoscopy. No patient developed thromboembolism. Of interest, 15% of women undergoing ovarian detorsion by laparoscopy and 25% by laparotomy developed postoperative fever. Normal follicular development was documented subsequently by ultrasound in over 90% of both groups. Furthermore, in 13 patients who later underwent surgery, 12 had normal-appearing ovaries on the affected side, and all 6 who later had IVF had eggs retrieved from the affected ovary. Of great interest, the authors report, "of the 7 patients in whom ovarian function was impaired post-operatively, 5 (71.4%) had undergone ovarian cystectomy at the time of detorsion." These women represent 5 of 31 who underwent cystectomy out of the total population of 102 patients. Of 31 cysts that were removed, the authors report that 18 were functional. This suggests that attempts at cystectomy should be minimized in this population (although 5.4% of patients experienced repeat torsion).

This large study confirms what was suggested previously: most ovaries can be simply detorsed laparoscopically. The risk of a thromboembolic event is virtually nil, and certainly no higher than that associated with removing the affected adnexa; and, as shown in this study, most women retain viable ovarian function. Of interest was the report that performing cystectomy may not be in the patient's interest, since these women seem to represent a disproportionately large group with postoperatively impaired ovarian function.