

## The international workshop on laparoscopic surgery in gynaecology held on the 19-20th May 1998 in Timișoara, România

The workshop was organized by the Romanian Society of Obstetrics Gynaecology (SOG), the Romanian Association for Gynaecologic Endoscopy (AREG), the Italian Society of Endoscopy and Laser Therapy (SIELG), the University of Medicine and Pharmacy Timișoara and Società Triveneta di Ginecologia ed Ostetricia, Italy.

The scientific program included lectures and papers concerning laparoscopic surgery in Gynaecology and a round table on laparoscopy face to face with laparotomy in benign pelvic pathology.

The workshop was led by professors Antonio Onnis (Padova), Stefan Chiovschi (Timisoara), Mauro Busacca (Milano), Ioan Lighezan (Timișoara), Bruno Andrei (Parma) and Tudor Gavrilescu (Nassau USA).

**Stefan Ioan Chiovschi**

Much progress has been made since the first laparoscopic procedures and this new enthusiastic surgical field has become a routine solution for many gynaecological pathologies.

In Romania the first International Workshop on Laparoscopic Surgery in Gyneacology is organized bearing in mind the most advanced guidelines in laparoscopy and includes lectures and communications on the main laparoscopic topics and a round table on endoscopic procedures "face to face" with laparotomy in benign pelvic pathology.

Timisoara is honoured to host the international guests coming from Italy and we hope that this workshop will open the horizon of a new collaboration between Italian and Romanian surgeons in the laparoscopic filed and will bring a cultural enrichment for all of us.

**Mihai Vasile**

## Complications of laparoscopic surgery

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One of the less defined surgical chapters, in terms of percentage and incidence, is the chapter on intra and postoperative complications. In order to validate the feasibility of a surgical technique the evaluation of its risks and complications is mandatory. Unfortunately, very few studies of large case-series on laparoscopic surgery patients are available and the reported occurrence of complications regards mainly individual isolated cases or is based on the long accumulated experience on diagnostic laparoscopy or tubal sterilization.

Conversely, the increased frequency of the indications, the enhanced number of surgeons approaching laparoscopic procedures, as well as the use of new instrumentation has created new complications. A national register of endoscopic complications is still unavailable. However, if we consider laparoscopic surgery as only a different way of approaching the pelvic organs, the complications are related to the technique, to the personal experience of the surgical team and to the peculiarity of the access route. In a paper published in 1985 Nezhat reported a 3.08% of complications related to 6949 cases of major laparoscopic procedures, while a French multicenter study from 1993 reports an incidence of complications reaching 0.52% taking into consideration major laparoscopic surgery as well.

Tab. 1 – Incidence of complications on 1000 operative procedure.

<i>Incidence per instrument:</i>	<i>Incidence per anatomic site:</i>	<i>Other indicators:</i>	
• Veress needle	2.7	• Death	0.05-0.3
• Main port	2.4-2.7	• Bowel	0.6-3
• Ancillary port	2.5-6	• Urinary ways	0.06-1.6
• Monopolar hook	0.5-2.8	• Nerves	6.1
• Laser	1.2	• Uterine perforation	3.7
• Pneumoperitoneum	7.4	• Recovery > 3 days	4.2-27
		• Readmission	3.1-5
		• High persistent $\beta$ -HCG level	63-144
		• Infections	1.4-6.5

The first surgical step, the *induction of pneumoperitoneum*, implies the use of the Veress needle to penetrate the abdominal wall, a blind procedure that may lead to injuries of the abdominal organs and vessels.

Predisposing factors are the presence of adhesions, lack of experience of the surgeon, who may direct the needle too far vertically or laterally. Stomach and bladder overdistention may also constitute risk factors for perforation, therefore preoperative complete evacuation by aspiration and catheterization is mandatory. A strict protocol during Veress needle penetration minimizes the risk of complications during this delicate preoperative phase. The needle must be inserted using a 45° angle and must respect the pelvic axis, choosing the entry point at the periumbilical level, in order to avoid peritoneal separation and subsequent preperitoneal emphysema; it is well known that peritoneum is highly adherent to the aponeurotic structures at umbilical level. Intestinal or vascular perforations must be promptly diagnosed using "security tests" using a syringe and controlling intraabdominal and insufflation pressure variation. When preperitoneal or subcutaneous emphysema is detected (by observing asymmetrical abdominal distension or by revealing the

typical abdominal wall crepitation) insufflation must be immediately stopped as the extension of the emphysema to the mediastinal structures may compromise cardiac and respiratory functions. Bowel injury by Veress needle puncture may not require treatment: the entity of the lesion must be accurately evaluated and any bowel laceration or bleeding need to be corrected by a double layer laparoscopic suture. Laparotomic treatment is rarely required. Rather frequently (2%) a pneumoomentum may appear, generally needing no treatment.

*Main port insertion* is performed similarly to Veress needle perforation and implies the same risks of bowel and vessels injuries, but in a more dangerous way, considering the larger diameters of the instrument. This problem may be avoided by paying attention to the penetration angle and to the force used during the procedure. Injury to a big vessel imposing an emergency laparotomy is seldom reported (20 cases in the literature) but may be lethal.

*Ancillary port insertion*, even if it seems uneventful, being performed under visual control has the highest number of complications. The usual injury is to the inferior epigastric vessels on the border of the rectum abdomini muscles. Epigastric vessel bleeding require hemostasis by suture, bipolar coagulation or pressure with a Foley catheter. Hemostasis may be achieved either at the end of the procedure as the ancillary trocar "per se" produces hemostasis, eliminating the need for a new port entry. Ancillary port extraction must be performed at the end of the procedure under direct view in order to diagnose possible epigastric lesions. Hemostasis difficulties using these techniques are very rarely described but usually a simple enlargement of the skin incision to permit better suturing of the artery is sufficient.

*Intraoperative injuries* involve mostly the bowel and the ureter. Bowel injuries are frequent with adhesiolysis and are usually determined by excessive tissue traction, scissors or thermic, electric and laser energy. Electric or laser injuries might be neglected during surgery and the diagnosis delayed until peritonitis or bowel occlusion signs become present. Accurate knowledge of pelvic anatomy, a perfect view of the operatory field and experience with the use of electrical instrumentation are of paramount importance being basic prerequisites for any surgeon who approaches laparoscopic procedures, as well as for laparotomy. Bowel injuries limited to the superficial serosa permit an expectant management while complete punching or lacerations require sutures, sometimes even resection and end-to-end anastomosis. Urinary bladder injuries may occur while dissecting the space between the uterus and the bladder during hysterectomy or adhesiolysis or during Retzius space preparation in Burch procedures. Vesical perforations are easily diagnosed by visualizing intraoperative bleeding and mostly by observing blood or gas in the urine. Small injuries may be surgery requiring laparotomic management, therefore, during major laparoscopic procedures, ureteral isolation may be required in order to avoid injury. Vascular injuries may interest the large vessels (aorta, cava, iliac) and need immediate laparotomy, while bleeding from smaller vessels such as the uterine artery or the ovarian vessels may be managed laparoscopically by bipolar coagulation, clips or suture.

*Postoperative laparoscopic complications* include possible infections of abdominal wall sutures, pelvic abscess in cases of terminal bowel injuries, rectovaginal fistulas in surgery performed for rectovaginal septum endometriotic nodes, especially if the vaginal cuff was previously coagulated by monopolar current before suturing. When a more than 10 mm diameter ancillary ports are used, incisional herniation is possible but rare and may be avoided by suturing the aponeurotic defect.

The large experience with laparoscopic surgery had demonstrated its effectiveness and safety but still attention has to be paid to possible complications. Knowledge of potential laparoscopic complications and their treatment is the only way to avoid surgical risks.

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## Endometriosis: laparoscopic treatment

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The incidence of endometriosis among female population ranges between 7-10%. Endometriosis should not always be considered a disease and requires adequate treatment only when correlated with pathological changes in the normal pelvic anatomy, causing pain and/or infertility.

### Stage I (minimal)

The association of endometriosis – infertility in this stages is still debated. Randomized trials have shown no statistically significant differences in the reproductive potential among patients treated with medical therapy, surgery and expectancy management. Many Authors consider minimal endometriosis as a parapsychological condition which does not necessarily require treatment.