

New Techniques in Gynecological Endoscopy

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The new technique of celiosurgery was pioneered by Raoul Palmer in Paris in 1940.

Although it had its beginnings in gynecology, the technique was to drastically change the whole of surgery by introducing the concept of minimally invasive procedures.

This breakthrough is a good example of the sudden emergence of a new method in the field of classic treatment. But innovation, of course, brings its share of problems and questions.

A New Technique

Celiosurgery changed the way in which surgery was looked upon. It is not just another way of doing the same thing but a completely different approach. Why ?

- **The New Field Of Operations In The Pelvis**

- Drawbacks :

The procedure requires small-diameter instruments and multiple entry points. Because of the limited field of vision and movement carbon dioxide or laparolifts must be used.

- Advantages :

The wall does not have to be opened and there is

no drying or contamination by air.

- **Anatomy And Functions Are Unaltered**

- Magnification by means of microinstruments and optical instruments allow precision surgery.
- The need for unimpeded vision requires constant hemostasis.

- **There Are Numerous Unexpected Effects**

- Organ reactivity

One surprise effect is the spontaneous wound healing in the fallopian tube, observed after the discription of our method for treating extrauterine pregnancy.

- Therapeutic strategy

Primary lymphadenectomy is of special interest in cancer of the uterus.

- Successive Assessment Without Repeat Anaesthesia
Diagnosis, prognosis and surgical treatment can be performed in sequence.

Let us not forget however what the real values of surgery should be: celiosurgery fulfills the critical criteria of simplicity, neatness, effectiveness and restraint.

A New Kind Of Surgery

All areas of gynecological surgery are now covered.

- **Adnexal Surgery Has Come Of Age**

- Extrauterine pregnancy

Since our first description of the surgical technique in 1973 it has become a milestone in the treatment of tubal pregnancy.

- Tubal sterility

When the cause is adhesions or obstruction, the uterine tube is the preferred site for surgical endoscopy.

- Ovarian cysts

The diagnosis and treatment of ovarian cysts are now based on this surgical approach.

One outstanding problem, however, which is still the subject of clinical research, is peritoneal reactivity to physical and pathologic insults.

- Endometriosis

The diagnosis, etiology and treatment of endometriosis have been completely altered by the advent of this new surgery. Other operations whose indication has also been profoundly changed include adnexal torsion, pelvic inflammatory disease and pelvic pain.

- **Hysterectomy**

The operation that has come to symbolize the role of the gynecologist, hysterectomy is still a subject of debate. However, our experience of 2000 procedures performed over a six year period using the endoscopic technique has shown it to be effective.

Last Frontiers

- Cancer

The second-look operation in cancer of the ovary was the first positive contribution of the technique to cancer surgery. Radical hysterectomy, which we were the first to perform in 1989, was a totally new departure : lymphadenectomy, whose advantages are now recognized, can even be suggested at the assessment stage prior to treatment.

- Prolapse

The technique has been adopted for the treatment of prolapse. Suspension of the vesical neck by Burch's method is now routinely performed with the same success as by the other routes. However, precedence is to be given to techniques of vaginal repair. In varying ways, each major area of disease has benefited from endoscopic surgery in terms both of operating technique and of the approach to therapeutic procedure.

Subject To New Criteria Of Assessment

Its recent emergence in the field of classic treatment has afforded little time to carry out the necessary evaluation of all the features of this novel technique.

- **Complications**

A true evaluation cannot be made simply by listing the possible complications already documented in a large number of published reports.

What is needed are case series of sufficient numbers and teams with sufficient experience to allow a proper assessment of the specific complications of this surgery, those due neither to a lack of expertise nor to inadequate training.

- **Training**

Use of an operating laparoscope is a real surgical skill. It requires proper training and cannot be mastered simply by watching demonstration videos or by a few days' practice on animals or a pelvic trainer. Learning the skill is a long and exacting process that can only be achieved in a team that is perfectly familiar with the method and has full experience of the other gynecological surgical techniques.

- **Results**

Evaluation of this technique will require comparative studies of large series that do not take account of the approach to the disease itself.

- Extruterine pregnancy

Current means of early diagnosis must be adopted.

- Surgery for sterility

The importance of intrauterine methods of evaluation must be recognized.

- Surgery for endometriosis

Our lack of knowledge about the causes of the disease must be taken into account.

- Hysterectomy

A distinction must be made between operations involving a large or normal-size uterus and between operations with or without prolapse.

- Cancer surgery

There must be a clear awareness of what concerns endoscopic surgery and what concerns oncology.

- Lymphadenectomy

Recourse to the operation must be decided on before discussion begins on the usefulness of performing laparoscopy.

- Surgery for prolapse.

The cause of the displacement must be taken into account.

- **Cost**

We must clearly distinguish between the cost of endoscopic surgery itself and that of the essential equipment required to carry it out. There is also the added cost of the sophisticated instruments often associated with this form of surgery, such as lasers, staplers and clips.

But are they always necessary? In many cases is it not sufficient just to use bipolar coagulation to achieve hemostasis?

Any evaluation of this surgery regarding its cost, effectiveness and the training required should consider only those features directly relevant to the technique itself.

Continous Progress

Celiosurgery will always be bound by the rules governing surgery as a whole but in the future it is certain to develop even further as new advances are made in technology. Recent events have shown this and future developments will confirm it.

- **The Growing Importance Of Images**

- Heightened images

The use of fluorescence and certain wavelengths for neoplastic metastases and endometriosis of the peritoneum for example.

- Increased reality

The use of images obtained before surgery to

facilitate the procedure.

- Virtual reality

With this technique the feasibility of a surgical procedure can be tested before intervention and training can be done on machines using computers and robot technology. The technique can also be used for operating or as an aid in remote surgery.

- **Microendoscopy**

Instruments of 2 mm diameter or smaller provide a whole new range of diagnostic possibilities and may even allow anaesthesia to be replaced by simple sedation.

- **Multifunction Instruments**

The number of trocars will be reduced, as will the passing in and out of instruments during an operation.

- **Gas And Peritoneal Environment**

New advances will be made in our knowledge of the changes in temperature, pH, illumination and peritoneal reactivity to physical insult.

- **New Anaesthetics**

These new agents take into account changes in the internal environment due to gas from pneumoperitoneum or to liquids used in dilatation of the uterus. Changes in cardiovascular or thoracic pressure or in circulations may account for oliguria or other incidents occurring during prolonged anesthesia. New gases may avoid hypercapnia and changes to the internal environment.

We are witnessing the beginnings of what promises to be a long therapeutic revolution!