The diagnosis of benign uterine pathology using transvaginal endohysterosonography

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Summary: Twenty-nine women believed to be affected with benign uterine pathologies underwent transvaginal hysterosonography insertion of a physiological solution into the cervical cavity by means of a catheter positioned in the cervical canal. This new technique, due to the acoustic window created by the fluid, made it possible to find: one cervical polyp, six endometrial polyps, one endometrial synechia, five submucosa myomas and one uterine malformation, the presence of which, with traditional ultrasonography can only be suspected. The subsequent hysteroscopic check-up confirmed the high diagnostic reliability of hysterosonography which is also easy to carry out, safe and costs little.

Key words: Transvaginal hysterosonography; Hysteroscopy; Uterine cavity.

INTRODUCTION

Transabdominal ultrasound still represents the most important method in the study of the female pelvis. The advent of transvaginal ultrasound represents an improvement in that it offers greater spatial resolution of the pelvic organs, allowing the assessment of small pathologies understimated by traditional ultrasonography. Thus, a further improvement of the diagnostic capacity of transvaginal ultrasound is the new method of hysterosonography which defines with great precision the endometrial cavity and its pathologies.

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MATERIALS AND METHODS

Twenty-nine patients were examined using this technique after having been referred to us for sterility, intermenstrual bleeding and anomalous endometrial echopatterns which had been found by a transvaginal ultrasound examination of the second level. All the patients were in fertile age and were examined during the follicular phase of the ovarian cycle. The criteria for exclusion were climaterium, vaginoscopic and/or cytological cervical or endometrial pathology examination, recent surgery on the genital organs, and anamnesis of pelvic phlogosis.

The hysterosonographic examination consisted of introducing 30 cc of a physiological solution into the uterine cavity, atfer previous disinfection (Germozero Jodio, Carlo Erba, Milan, Italy), by means of a Semirigid Foley Catheter (Wirutan ch6 3 ml Rusch AG Kernen, Germany)

positioned in the cervical canal and immobilized by dilating its balloon with 3 ml of isotonic solution.

The patients undergoing the examination, without the use of anaesthetics or analgesics, had only received, one hour before, premedication with antispastics via the rectum (Buscopan rectal suppositories, Boehringer Ingelheim Italia, Reggello Florence, Italy). The ultrasound machine used was a Kontron Sigma 1 (Kontron Instruments S. A., Montigny Le Bretonneux, France) possessing a transvaginal sound of 7.5 Mhz.

Assessment of the uterine cavity was possible thanks to the acoustic window created by the fluid which gradually distended the cavity itself. Finally, all patients underwent prophylaxis therapy with different antibiotics (Zimox and Clavulin cpr 1 gr, Carlo Erba, Milan, Italy).

RESULTS

In three of the 29 patients assessed it was not possible to carry out the examination due to lack of cervical retention of the catheter. In the remaining women introduction of the liquid allowed us to view the uterine cavity as a well-defined anechogenic image surrounded by a homogenously echogenic line referable to the endometrium. Externally to this we were able to note a clear demarkation of the different echogeneity of the myometrium. The presence of uterine malformations (uterus bicornis) was easily observable (fig. 1).

We were also able to see, with precision, the presence of bright jutting images in the uterine cavity (figs. 2, 3, 4). The clear distinction between these was possible on account of:

– visualization of the exclusively endoluminary localization of the polyps and assessment of a certain motility during the execution of the examination;

– characteristic irregularity of the margins and dishomogenicity of the echostructure of the endometrial synechia;

– minor echogenicity of the myoma with respect to the polyp and to the synechia with the possibility of distinctly evaluating its myometrial origin.

Diagnoses effected with ultrasound were: seven endometrial polyps, one endometrial synechia, five submucosa myomas, one uterus bicornis. No ultrasound anomalies were found in 12 cases. All the women underwent a subsequent hysteroscopic examination which confirmed our ultrasound diagnoses, individuating, as well, the presence of four cervical polyps

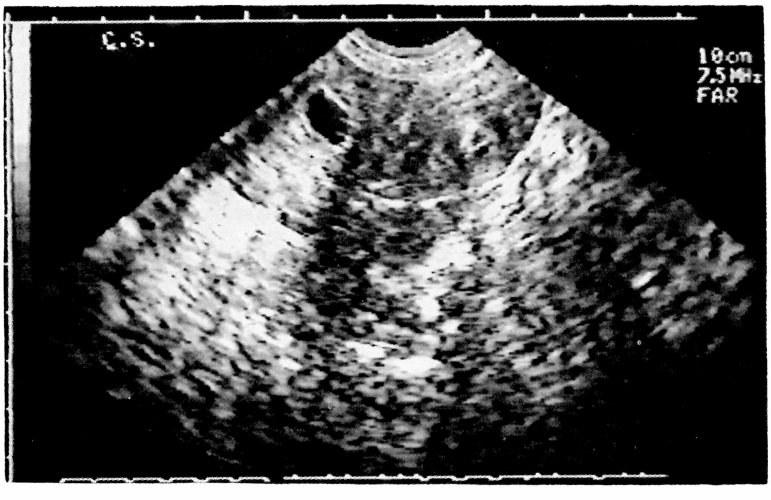

Fig. 1. — Uterus bicorne.

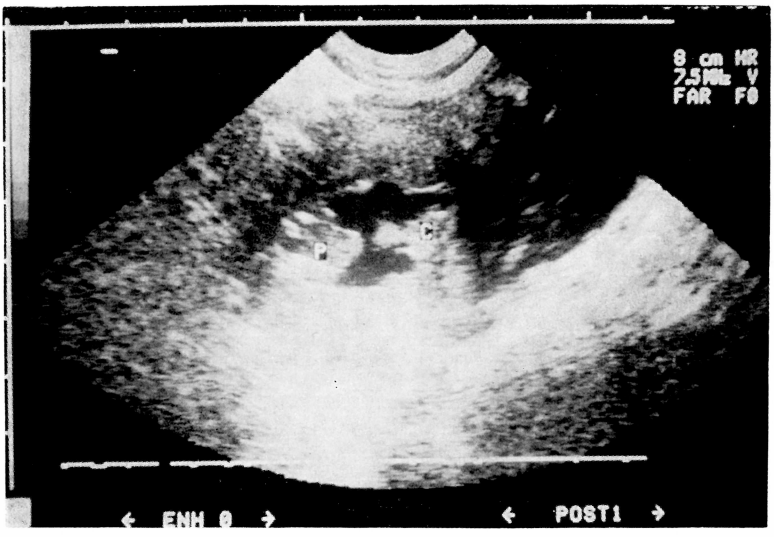

Fig. 2. — P: endometrial polyp; C: catheter.

(one of which had been interpreted with ultrasound as being of endometrial origin) and one endometrial polyp misunderstood by the hysterosonography. However, the hysteroscopic examination did not identify two of the five submucosa myomas present (tab. 1).

During the execution of the examination almost all the patients reported only menstruation-like pain symptomatology; only in two cases was this of a great intensity and, moreover, it regressed spontaneously within a maximum of twenty minutes following the examination.

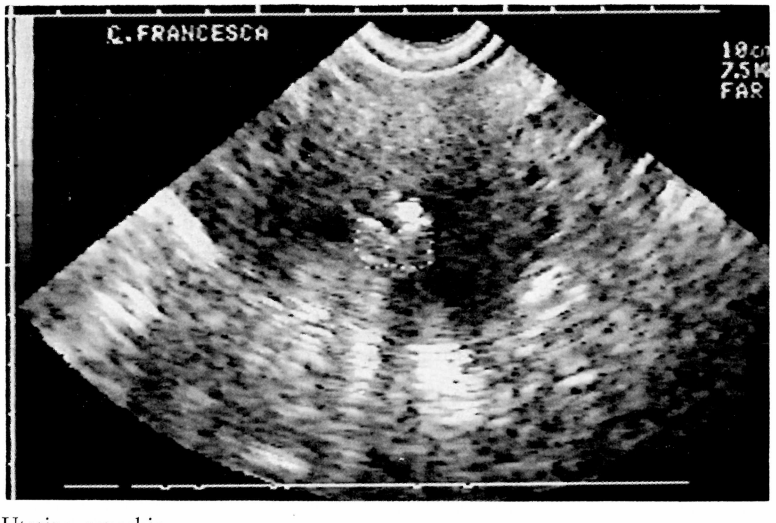

Fig. 3. — Uterine synechia.

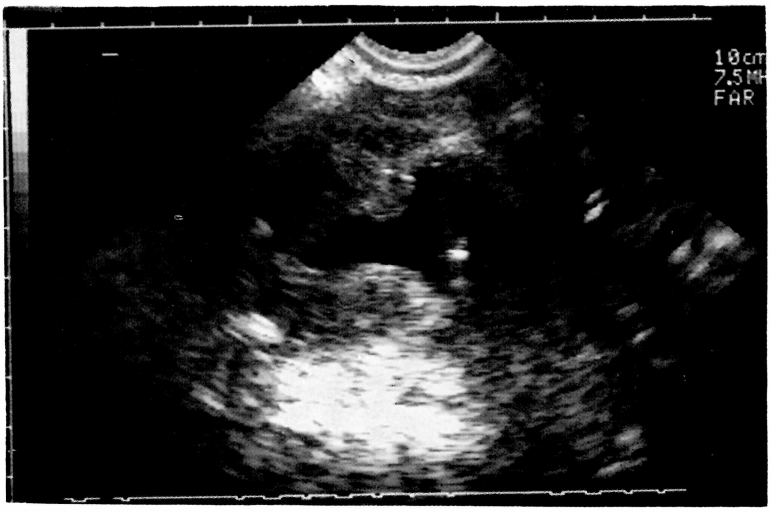

Fig. 4. — Submucous myoma.

Table 1. — *Uterine pathologies as demonstrated by hysterosonography and hysteroscopy.*

	Hystero-sonography	Hysteroscopy
Cervical polyps	1*	4
Endometrial polyps	6	7
Submucous myomas	5	3
Uterine malformations	1	1
Uterine synechia	1	1

* Interpretated as being of endometrial origin.

DISCUSSION

The acquisition of new methods which permit obtaining, on the one hand, significant diagnostic results and, on the other, reduction of the technical difficulties, side-effects and costs, has always been the goal of research.

However, in the gynecological field only a few Authors have carried-out ultrasound assessment of the uterine cavity by introduction of a fluid through the cervical canal using techniques of ever greater simplicity ([1, 2, 3, 4, 5]).

The results of our study show how hysterosonography offers a precise diagnosis of uterine pathologies, the presence of which traditional transvaginal ultrasonography can only suspect ([6]).

The only problem we had concerned the possibility of evidencing the pathology situated in the cervical canal, as this was masked by the presence of the catheter. In effect, of the four cervical polyps, the only one we saw had actually been interpreted, with hysterosonography, as being of endometrial origin. The hysteroscopy, however, confirmed that we were dealing with a polyp with a long peduncle and that it had been disolcated in the cavity of the corpus uterus during the examination.

Nevertheless, hysterosonography demonstrated itself as having, with respect to hystheroscopy, a greater diagnostic reliability with regards to submucosa myoma. Of the latter, it was possible to assess with precision not only the site and the size, but also the degree of extension within the myometrium.

Therefore, we maintain that this new method offers a valid contribution to gynecological diagnosis also in consideration of its simplicity which eliminates typical negative aspects of traditional techniques

such as anesthesia, radiation, allergic reactions to the contrast medium, technical or logistic difficulties and high costs.

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