TBILISI STATE MEDICAL UNIVERSITY
ANNALS OF BIOMEDICAL RESEARCH AND EDUCATION
2002 January/March, ***Volume 2, Issue 1***

The Deficiency of Corpus Luteum - Ultrasonographic Detection

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In the literature sources there is a lack of information about the character of menstrual cycle disorders in accordance with follicle-corpus luteum system. For identification and accurate clinical diagnosis of any forms of menstrual cycle disorders, that is considered as the first condition to conduct the appropriate and purposeful treatment, it is very important to find and test the methods of investigation representing the reliable information to create the full clinico-morphological symptom-complex for each form of menstrual cycle disorders (1,2).

To answer the above-mentioned questions we have conducted ultrasonographic study of 25 reproductive ovaries in patients of age 30-34. 12 of 25 patients showed shortened period of menstrual cycle but 13 – prolonged period. Duration of menstrual cycle disorders lasts 1-2 years.

The studies were performed at the Sonographical Research-Center (Director – Academician of Medical Sciences of Georgia, Professor D.Tatishvili). After the echoscopic studies carried out by A.Akhmeteli (doctor-echoscopist), have been found that from 12 patients with shortened menstrual cycle:

- one patient, studied on the 5th day of menstrual cycle, showed no predominant or “leader” crescent follicle. The crescent follicles were revealed in both of ovaries: 4 - in right ovary and 3 - in left one relatively.

- one patient, on the 7th day of menstrual cycle (at the end of the week of the first phase) showed 6 crescent follicles in one ovary among which one follicle has predominant (“leader”) follicle features (properties), but hasn’t a round form. Relatively one diameter is more than another one, the value of big diameter was 8 mm.

- one patient, on the 12th day after menstrual cycle, revealed the predominant matured follicle of diameter 19mm, with no ideal round form.

- one patient, on the 12th day after menstrual cycle revealed the predominant matured follicle with no ideal round form. Its big diameter was equal to 27mm. In this follicle has been occurred hyperechogenic “mural crescent”.

- one patient, on the 13th day after menstrual cycle showed the predominant matured follicle of diameter 23mm, with no ideal round form and double hyperechogenic contour.

- one patient, several hours before the ovulation revealed predominant matured follicle with double hyperechogenic contour. The follicle lost its round form. Its big diameter was equal to 26mm.

From the rest 6 patients, with shortened menstrual cycle, having been studied on the 11th day of menstrual cycle, no one has the predominant maturing /or matured follicle with ideal round form.

So, at the condition of corpus luteum deficiency (lasting 1-2 years), during the shortened menstrual cycle development, in two patients, having been studied on the 5th and 7th days of the first week of menstrual cycle on the background of crescent follicle no one has showed predominant –“leader” follicle. Non of 12 patients showed the maturing or matured follicle with ideal round form, so that in all examined cases the index indicating to the existence of maturing and matured follicle form factor is not equal to 1 (“1”). According to the existed criteria, if any structural (organ, cell etc.) index of form factor is not equal to 1, then it is considered as a deformed structure.

From 13 patients with prolonged menstrual cycle:

- on the background of both follicles with polycystic, one patient on the 11th day of menstrual cycle has revealed several crescent follicles without signs of predominant follicle.

- one patient, on the 11th day of menstrual cycle revealed the small predominant follicle in right ovary and the atresic crescent follicle in left one.

- one patient, on the 23rd day of menstrual cycle and on the 2nd day of bleeding, one patient on the 35th day of menstrual cycle and on the 4th day of bleeding revealed transformed corpus luteum into cyst.

- one patient, on the 38th day of menstrual cycle and on the 5th day of bleeding on the background of white body have revealed corpus luteum regression. One patient on the 40th day of menstrual cycle and on the 7th day of bleeding showed persisted corpus luteum regression and two crescent follicles in the same ovary among which to distinguish the predominant follicle in the following menstrual cycle is very difficult.

- one patient on the background of hyperstimulation with Clistrpegit on the 40th day of menstrual cycle and on the 8th day of bleeding showed persistence of two follicles, one with diameter - 29mm, the second – 30mm.

Revealed corpus luteum anechogenic structure on the 35-38 days of menstrual cycle and on the 3-5 days of bleeding in the ovaries of 6 patients was so like to ultrasound picture, that this similarity lets us express our point of view about the inhibition follicle luteinization (follicle transformation into cyst) process.

The results of study indicate that during shortened and prolonged menstrual cycles developed at the condition of corpus luteum deficiency show corpus luteum in ovaries (ultrasonographically) which with its size, form and echogenity is different from normal corpus luteum and can be characterized as lack of its function.

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Неполноценность желтого тела - ультрасонографические измерения

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Р Е З Ю М Е

Ультразвуковое исследование показало, что при пролонгированном менструальном цикле, вызванным неполноценностью желтого тела в яичниках выявляется персистенция фоликула, преобразование фоликула в цисту, регрессия желтого тела и преобразование желтого тела в цисту.

Ключевые слова: *желтое тело, неполноценность, персистенция, регрессия, циста, ультрасонография*