

ADENOMYOSIS: PATHOGENETIC ROLE OF STEROID HORMONES RECEPTION

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Introduction: The most common localization of genital endometriosis is the uterus lesion - adenomyosis, the specific frequency of which is 70 - 80%.

Methods: We have studied 252 women with histologically verified diagnosis of adenomyosis (the main group). The control group included 252 patients without proliferative processes of the uterus. Immunohistochemical study of the endometrium/ myometrium had been carried out based on material from 51 patients, 7 of which were in the control group. We have studied the expression level of estrogen receptors: ER α , ER β , progesterone receptors (PR) and CYP19 (aromatase) by reverse transcription polymerase chain reaction.

Results: Studied biopsy specimens were obtained during surgical treatment of patients with various gynecological pathology. Attention is drawn to the fact of increased expression of ER α and ER β genes in patients with glandular hyperplasia of the endometrium, in contrast to the patients with endometrial atrophy. It is shown that in patients with glandular hyperplasia the level of ER α and ER β gene expression is increased in 60%. While in patients with endometrial atrophy gene expression level is low in 72%. ER α and ER β gene expression is significantly increased in patients over 50 with persistent menstrual cycle and in patients under 50 in postmenopause. Gene expression of PR has been analyzed in 30 patients in the main group. The number of women in groups of over and under 50 was equal, 15 people in each group. Attention is drawn to the fact of increased gene expression of PR in women in deep menopause. The low level of expression was observed in women under 50 with menstrual cycle. It is interesting that expression of ER β was accompanied by suppression of ER α . Expression of ER is accompanied by expression of PR. In the studied uterine biopsy specimen a low expression of aromatase gene CYP 19 has been revealed, which is a favorable prognostic sign.

Conclusions: A low expression of aromatase gene CYP 19 it has been revealed. ER α and ER β gene expression in the myometrium does not differ from the control group. ER α and ER β gene expression is increased in patients with endometrial hyperplasia, and reduced in patients with endometrial atrophy. Increase of ER β expression is accompanied by reduction of ER α expression and increase of PR expression.

Key words: adenomyosis, steroid hormones, reception.

BIOARTIFICIAL LIVER – DECELLULARIZATION AND THE SUBSEQUENT RECELLULARIZATION OF THE RAT LIVER

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Introduction: Bioartificial livers (B.A.L) could become a possible future alternative to the liver transplant. B.A.L would be used as a temporary transplant (to sustain a critically ill patient until a suitable

donor organ becomes available) or a permanent transplant. It takes the form of closed, ex vivo systems containing functional liver cells grown on a synthetic matrix.

The aim of the present study is to obtain a bioartificial rat liver by consequently using of the decellularization and recellularization specific methods.

Materials and methods: 20 rats ranging in age from 6 weeks to 3 months have been used for obtaining intact rat liver. The obtained liver was mounted on a decellularization apparatus for perfusion. The portal vein was cannulated and the liver was first perfused with heparinized phosphate buffered saline "PBS" (+ penicillin, amphotericin B, streptomycin) to clear blood from the organ. The liver was then decellularized with 500 ml water containing 1% sodium dodecyl sulfate "SDS" and 1% Triton X for at least 6 hours each time using a pump with manual recirculation. In some livers we have tried to use some other specific enzymes. The organ was then washed with deionized water and then with PBS for about 24 hours. Successful decellularization was defined as the lack of nuclei or cytoplasmic staining using histological evaluation method with Hematoxilin Eosin. The decellularized liver was then recellularized with regenerative cells.

Results: This research work allowed us to obtain a bioartificial rat liver.

In the process of decellularization and recellularization of the rat's liver we have improved in some way the current technology and methods using a simple and effective apparatus for perfusion. An organ or tissue generated by this method could be transplanted to the rat model of chronic hepatitis.

In certain instances, a decellularized organ may be recellularized with cells in vivo (e.g., after the organ could be transplanted into an individual). Engineering of a transplantable liver would be a permanent alternative to donor liver transplant.

Conclusions: These results provide a proof of principle for the generation of a transplantable liver graft as a potential treatment for liver disease.

Key words: bioartificial liver, decellularization, recellularization, transplant.

VARIANT ANATOMY OF THE LEFT GASTRIC VEIN

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Introduction: Investigation of the venous vessels of the gastroesophageal transition is an actual problem in the surgery of the portal hypertension, and the basic knowledge of anatomical variants of the left gastric vein, as the main porto-caval anastomosis in the celiac region, is essentially important, because bleeding from the gastric varices accounts for 20-30% of all bleedings from varices and it is hard to stop this bleeding through endoscopy.

Materials and methods: From 2008 to 2011 year 90 gastro-intestinal complexes of corpses of adult people, both sexes, who had no gastroenterological diseases, were dissected and the celiac venous vessels were investigated by means of X-ray. At the end of our practical part the investigated information was processed statistically.

Results: In 89(98,9%) of 90 cases the left gastric vein (LGV) was found as an isolated vessel. In 1 case (1,11%) the LGV was a type of anatomical variant. Its gastric branch anastomosed with the right gastric vein along the lesser curvature of the stomach. The esophageal branch went up to the esophagus, along