New contraction proteins in the ultrastructure of myometrium

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Objective: Even though the function of the myometrium is vital for the existence of all mammals there is little knowledge about its ultrastructure. So far only the contractile filaments actin and myosin could be identified. There is no evidence for the existence of other filament systems neither by the means of electron microscopy nor histochemically. Problem: Is there a method that is capable of decoding the postulated further myofibril proteins?

Methods: Special low percentage SDS gradient gel electrophoresis that is capable of splitting proteins in the mega dalton area in myometrial biopsies. Injection of these protein bands into rabbits to stimulate antibodies. These antibodies are needed to search a uterus-cDNA-gene-expression-library to isolate those cDNA clones which code the uterine megadalton proteins. The extensions of various positive cDNA clones done by the RT-PCR-technique allows the sequencing of the isolates proteins.

Results: More myofibril proteins could be isolated. Titin is a >3,000 kDA large filamentous protein, and single molecules extend the filament system. Nebulin: is also a giant filamentous protein >800 kDA and envelops the whole length of the thin filaments. Titin has a kinase domain and is characterized as a contraction protein. It also regulates the structure and direction of the sarcomere ultrastructure which allows a vectorially directed coordinate labour.

Conclusion: Overexpression of titin might be the cause of premature labour and therefore antagonising its expression might be largely more effective than the tocolytic agents at present.

Oral Administration of PGE1 Analogue in I.U.F.D.

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The objective of this study was to compare between oral and intravaginal PGE1 analogue (misoprostol ) as regards safety and efficiency in the termination of pregnancy in cases of IUFD before 28 weeks.

Two groups were used:
I 20 cases, where oral route was used.
II 20 cases, where intravaginal route was used.

In both groups the cervix was unripe and there was no contraindications for the use of PGs. Successful faetal expulsion occurred in 18 cases in the first group, while in the second group only 9 out of 20 had faetal expulsion. The induction-contraction interval was significantly shorter in the vaginal group while the induction dilatation interval and surgical interference for placental separation and removal showed insignificant difference between the 2 groups. Side effects were similar between the groups, in the form of mild vomiting and one case of diarrhea.

Vaginal administration is more effective. The oral dose should be increased to get a high successful rate.