be regarded as the safe frequency for rat testes undergoing LESWT. Furthermore, our study demonstrates that TEM is one of the most reliable methods for evaluating the effect of LESWT on microstructures of rat testes.

Keywords: Low-energy extracorporeal shock wave therapy (LESWT); testes; safety evaluation

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AB025. Semen liquefaction molecular pathways

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Background: Human semen is the jelly-like substance mainly containing Semenogelin 1 (Sg1) and fibronectin (Fn) with the characteristics of coagulation and liquefaction in a short time. In our previous study, we have identified that Eppin could interact with Sg. Eppin75–133 C-terminal fragment bind the Sg164–283 fragment containing the only cysteine in human Sg1 (Cys-239). Besides that, during semen liquefaction, physiologically prostate specific antigen (PSA) hydrolyzes some region of Sg1 which inhibits sperm motility. Therefore, complex interaction among Eppin, Sg and PSA plays a major role in regulating semen liquefaction process. The aim of this study is to investigate the molecular pathways during semen liquefaction.

Methods: Molecular cloning was used to recombination *in vitro* 6-His-Eppin protein with N- and C-terminal fragments. Protein in seminal vesicle fluid was transferred to Immobilon-P Polyvinylidene Difluoride membrane by western blot analysis, followed by incubation with 6-His-Eppin protein, Eppin283–423 C-terminal fragment and Eppin73–288 N-terminal fragment at 4 ℃ overnight respectively in order to find the protein which can be bind to 6-HisEppin protein. 2-D electrophoresis was used to identification of Eppin binding partners. After that, anti-His was used to visualize using enhanced chemiluminescence and mass spectrometry to identify the sequence of protein.

Results: We found that the protein specifically binding to Eppin through Far-western immunoblot analysis demonstrated only the N-terminal of recombinant epididymal protease inhibitor (N-rEppin) and rEppin can binds to reduce seminal plasma protein, while MS identified that Fn can specifically bind to Eppin. Our study was the first evidence that some protein existed in seminal vesicle fluid does bind to Eppin, regulating the semen coagulation and liquefaction.

Conclusions: Two molecular pathways occurred in semen liquefaction. Eppin C- and N-terminal fragment interacted with Sg and Fn. Eppin N-terminal has a binding site of fibronectin, which is an important protein for semen coagulation. EpiPen regulated the process of semen coagulation and liquefaction through its N- and C-terminal bound to fibronectin and Sg respectively, influencing sperm capacitation. What's more, the C- and N-terminal fragment of Eppin self-formed double ring type molecular structure respectively and closely bound to the core structure named β—sheet by four-disulfide, which make the combination of Wap and Kunitze type inhibitor external surface just in the opposite two terminals of the transection of molecular structure. This structure contributes to interact with other proteins in increasing its roles. During human ejaculation, spermatozoa pass through the ampulla of the vas deferens and then move into the proximal extension of the seminal vesicle and finally enter into the ejaculatory duct. At this juncture spermatozoa are first mixed with copious secretion from the seminal vesicles. Thereafter the spermatozoa and seminal fluid is mixed with prostatic secretions when they enter into the prostatic urethra. It can be imagined that after spermatozoa enter into the ejaculatory ducts their surface Eppin would be saturated by binding with Sg and Fn. This process inhibits human sperm capacitation, making the initial ejaculated spermatozoa be in an immotile state. Purified plasma Fn, added at various concentrations to a preparation of live spermatozoa, was found to inhibit sperm motility in a dose dependent manner. During semen liquefaction, physiologically PSA hydrolyzes Sg and Fn to increase sperm motility. Therefore, seminal liquefaction is a process increasing the capacitation of sperm progressive motility and fertilization. Fibronectin could affect the process of sperm coagulation and liquefaction through specificity combined with Eppin, involving in sperm capacitation and fertilization. Our findings revealed novel

molecular pathways of semen liquefaction.

Keywords: Eppin; fibronectin; semen liquefaction; molecular pathways

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AB026. Experience on diagnosis and treatment of non-obstructive azoospermia

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Background: To analyze the status of diagnosis and treatment of non-obstructive azoospermia, and to introduce the experience on diagnosis and treatment of non-obstructive azoospermia.

Methods: Read the literature. The clinical characteristics such as sex hormones, testicular volume, chromosome karyotype and microdeletion of AZF gene of non-obstructive azoospermia patients were analyzed in this paper, and the gains and losses were analyzed in the course of diagnosis and treatment.

Results: Drug preparation before sperm retrieval can help improve the success rate. Different causes of non-obstructive azoospermia have different success rate. Treatment of non-obstructive azoospermia should respect the individual wishes.

Conclusions: Non-obstructive azoospermia is a difficult problem in the field of male infertility. The reason is that we know little about its cause. Even if some patients can get etiological diagnosis, there is no exact etiological treatment. A small amount of sperm can be found in the semen for a small number of patients through the empirical drug treatment, they have access to offspring through scarce sperm cryopreservation techniques. Most patients eventually need surgery to obtain sperm. There are many ways of surgery, in which highest probability of obtaining sperm is microdissection testicular sperm extraction. Success rate for sperm retrieval is 20–60%. Unfortunately, there is still no reliable means to predict whether a sperm retrieval will be successful. With the development of molecular biology, I believe that in the near future more non-obstructive azoospermia patients can be effectively treated.

Keywords: Non-obstructive azoospermia; diagnosis; male infertility

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AB027. Clinical analysis of transurethral vaporesection of the prostate using the 2-micron continuous wave laser for the treatment of benign prostatic hyperplasia

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Abstract: The present study aimed to evaluate the effects of transurethral dividing vaporesection of the prostate in the management of benign prostatic hyperplasia (BPH). From October 2006 to June 2012, a total of 377 patients who met the inclusion criteria with low urinary tract symptom secondary to BPH were treated transurethrally under epidural or sacral anesthesia using the dividing vaporesection technique. Of these 203 had a prostate volume of ≤80 mL and 174 had a prostate volume of >80 mL. Pre- and post-operative data were evaluated for prostate-specific antigen (PSAs, post-void residual volume (PVR), maximum urinary flow rate (Qmax), International Prostate Symptom Score (IPSS) and quality of life (QoL). Out of the 377 cases, 369 cases were followed up to

