Results: Higher survivin expression was found in less invasive UCB (p=-0,011 for nuclear and p<-0.001for cytoplasmic expression) and in UCB with lower histological grade (p=-0,018for nuclear and p<-0.001 for cytoplasmic expression).

Conclusions: Our results suggested that high survivin expression was associated with tumor stage and grade in UCB. Further studies are needed to conclude if survivin expression can be used as a diagnostic or prognostic marker for UCB.

***Keywords*:** surviving; urothelial carcinoma; urinary bladder; immunohistochemistry.

EPIGENETIC AGENTS INFLUENCE PROLIFERATION AND APOPTOSIS IN MOUSE TERATOCARCINOMA IN VITRO

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Testicular Germ Cell Tumours (TGCT), although rare, are the most frequent malignancies in young male population and believed to be initiated by epimutations, i.e. aberrant epigenetics, already *in utero*. Among various, teratoma is the most differentiated TGCT type encompassing all three germ layer derived tissues. Mouse teratoma is a well-established *in vitro* model which may be obtained by cultivating 7,5–days-old C3H mouse embryos and represent an ideal system to investigate the effect of the most prominent epigenetic drugs and agents.

After embryo isolation, they were treated for two hours with 5-azacytidine, Trichostatin A, Valproat, esiNanog, esiOct3/4 and esiTrrap, respectively. Embryos/teratomas treated with esiGFP served as a negative control. The embryos/teratomas were measured on day 0 and for the consequent 7 days of culturing, after which teratomas were scrapped, Sainte-Marie fixed and paraffin embedded for IHC analyses.

Epigenetic drugs and agents reduced significantly teratoma growth, with the exception of esiNanog and esiTrrap. Most prominent decrease in growth was determined in 5-azaC and esiOct3/4 treated embryos/teratomas.

IHC analysis of proliferative activity showed significant rise in Ki-67 signal in esiNanog and esiTrrap, as well as in 5azaC treated embryos/teratomas, compared to control. Apoptotic activity showed no significant change in any treatment.

This preliminary data notifies that epigenetic drugs and agents may have a significant effect on embryo/teratoma growth. It seems that teratoma growth is inhibited by necrotic activity rather than apoptosis which could consequently induce a rise in proliferation as a tissue reaction.

Keywords: epigenetics; DNA methylation; apoptosis; proliferation; TGCTs; mouse teratocarcinoma in vivo.

APOPTOSIS IN NATIVE VEIN WALL IN FAILURE OF HEMODIALYSIS ARTERIOVENOUS FISTULAS

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In line with the growing interest for studying apoptosis in blood vessels, this study is one of the first to assess the apoptosis in native veins used for arteriovenous fistulas (AVF) done for hemodialysis. The aim of this study was to evaluate apoptosis in previously punctured native veins (study groupy) compared with not punctured native veins (controls) in patients who undergo a surgical procedure for AVF as dialysis access. Cephalic vein specimens were obtained from 60 patients before the placement of AVF. Half of the specimens were from the previously punctured and half from non-punctured veins. A 1-cm long segment was excised from distal part of the cephalic vein, divided into two portions along longitudinal axis and prepared for immunohistochemical analysis. Immunohistochemical assessment and quantification of signals was used to evaluate the expression of Bax, p53, caspase 3 and Bcl-2.

Vein specimens from the study group with previously punctured veins showed significantly increased caspase 3 and Bax expression, compared with the control