

5<sup>th</sup> International Conference on

# Pediatric Nursing and Healthcare

July 11-12, 2016 Cologne, Germany

## Female fertility in survivors of childhood malignancy

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With 70% of young patients with cancer becoming long-term survivors the issue of fertility outcome has become an issue of great importance. Female fertility preservation provides significantly different challenges to that for the male. Embryo freezing is now a well-established procedure in many centers, but is not available for children who do not have a partner. Cryopreservation using vitrification of mature oocytes has become increasingly successful, but requires the patient to go through a course of hormone stimulation and is therefore not appropriate for children and young girls. Ovarian tissue cryopreservation has the potential advantages of preservation of a large number of oocytes within primordial follicles, it does not require hormonal stimulation when time is short, and is appropriate for the pre-pubertal girl. Disadvantages include the need for an invasive procedure, and the uncertain risk of ovarian contamination in hematological and other malignancies. Ovarian tissue cryopreservation in adult women with later re-implantation has resulted in at least 20 live births worldwide. We strongly recommend that all young patients with cancer have an assessment made of their fertility prognosis before they commence treatment. We have previously published guidelines for patient selection in young female patients with cancer and in this lecture I will report our practice in a single centre that has offered fertility preservation since 1996. Ovarian cryopreservation was offered to 9% of our patients and performed in 5%. The procedure was safe and without complications. All but one of our patients who have thus far developed premature ovarian insufficiency was identified pre-treatment using our criteria. More research is required before ovarian tissue cryopreservation in young patients with cancer can be considered to be an established technique available to patients out with IRB approved studies.

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## Oral itraconazole for treatment of infantile hemangiomas: Case series and mechanism research

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We report a case series of infantile hemangiomas (IHs) which were successfully treated with oral itraconazole (ITR), and the possible action mechanism. The diagnosis and judgment the improvement of IHs based on clinical manifestations, noninvasive color Doppler ultrasound performance, and, dermoscopy observation. Informed consent was signature from each IHs baby's parents after enough communication. Totally 22 IHs babies (male/female=4/18) entried the treatment, they aged 2-10 ( $3.90 \pm 2.30$ ) months, weight 4-11 ( $7.32 \pm 1.91$ ) kg. Five cases associated with fungal infection (3 *Candida* spp., and 2 *Malasseiza* spp.). ITR capsules (12 cases) or oral solution (10 cases) with dosage of 5 mg/kg/d was applied. In the first month, the red color of the lesions became lighter and the growth of the lesions were controlled, small cracks and wrinkles appeared on the surface which divided the lesion into lobules, dermoscopic feature showed indistinct vascular network and less capillary branches. The treatment period ranged 9-168 ( $72.90 \pm 47.61$ ) days, with the dosage of 280-9000 ( $3157.85 \pm 2213.16$ ) mg. The clinical effective percentage was 72.73% (16/22). Compliance was judged to be very good with mild diarrhea 27.30% (6/22) that did not interruption of medication. Investigation *in vitro* of ITR to IHs indicated the down regulation of Hedgehog and PI3K-AKT-mTOR signaling pathways.

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