

# Human Sperm Survival Test (SpST) for Reprotoxicity Detection in Medical Grade Gloves

ML Hoo<sup>2</sup>, Surinder Singh<sup>2</sup>, Pearl Majorie Liew<sup>1</sup>, ZH Tay<sup>1</sup>, YT Tan<sup>1</sup>, ST Tee<sup>2</sup>, CS Heong<sup>2</sup>

<sup>1</sup>TMC Fertility Centre, Johor Bahru, Malaysia, <sup>2</sup>TMC Fertility Centre, Kota Damansara, Malaysia

## ABSTRACT

**Introduction:** SpST is the preferred bioassay procedure in quality control and proficiency testing that is practiced in the ART laboratories to make sure that the products used for the culture of gametes and embryos are toxin-free. **Objective:** To investigate the reprotoxicity of different brands of medical grade gloves and establish useful reference data for other laboratories. **Methods:** The gradient-washed sperm samples, (n=10) exhibiting  $\geq 90\%$  motility were used in this experiment. Different brands of glove pieces (Nitrile, COATS, Yann Device Copolymer, Gammex Non-Latex and Gammex PF Latex) were assessed for their cytotoxicity. Sperm motility in the culture was evaluated sequentially at 24, 48 and 72 hours after an initial reference observation Sperm motility index (SMI): percentage of progressive motility of test sample/ percentage of progressive motility of control sample at indicated time points. A SMI  $< 0.85$  was considered toxic to the sperms. All statistical analyses were performed with one-way analysis of variance (ANOVA) followed by Bonferonni's test for multiple comparisons. **Results:** Nitrile and Gammex PF Latex gloves showed dramatic decrease of motility and were reprotoxic (SMI = 0.0) after 24 hours. Interestingly, COATS glove (SMI= 0.63) was shown to be toxic after 48 hours. However, Yann and Gammex Non-Latex gloves had an SMI  $< 0.85$ , indicating that they are not reprotoxic. **Conclusions:** Yann and Gammex Non-Latex gloves did not significantly reduce sperm survival and motility as compared to control groups and therefore, they are not detrimental to be used in ART procedures.

# XY Females: An Audit of Presentation and Management at PAG Unit of a Tertiary Care Hospital in Kuala Lumpur

Ahmed I, Zainuddin AA, Abang Abdullah ZH, Amerzuan NBA, Anizah A, Nur Azurah AG

University of Kebangsaan Malaysia Medical Centre

## ABSTRACT

**Introduction:** Females with 46 XY-karyotype is a rare disorder of sex development (DSD) with an incidence of 1 in 20,000. Current knowledge is sparse therefore, every single case is important. **Objective:** To review clinical presentation and management of 46 XY females at the Paediatric & Adolescent Gynaecology (PAG) unit of a tertiary-care-hospital in Kuala Lumpur. **Methods:** This audit reviewed management of female patients carrying 46 XY/mosaics Karyotype, at PAG unit, UKM-Medical-Centre, from Jan 2017-April 2019. Cases were identified from out-patient-unit records. Data was collected on pre-designed proforma and was analysed on SPSS-20. Categorical variables reported as frequency and percentage, while continuous variables as mean/standard deviation (SD). **Results:** All thirteen cases identified, were raised as females with female phenotype external genitalia. Mean age was 24.31 ( $\pm 7.2$ ) years. Average height was 161.46 (range, 138-175) cm and BMI was 24.12 (range, 16.3-38.8) Kg/m<sup>2</sup>. Five patients were diagnosed as Swyer's syndrome (Complete Gonadal-Dysgenesis), three were Mixed Gonadal-Dysgenesis and five were Complete Androgen Insensitivity Syndrome (CAIS). Primary amenorrhea was the most frequent clinical presentation (n=10). One patient visited to get infertility-certification for adoption of a child. One patient presented with acute abdomen while one with groin-mass. Ten patients had 46 XY karyotype, two had mosaic 45XO/46XY and one 46XY/46XX. One out of ten histopathology results was malignant (dysgerminoma), three were reported as gonadal-dysgenesis, two as streak gonads, while another two showed testicular tissues. Hormone Replacement Therapy was prescribed to ten and Bone Mineral Density was advised to three patients. **Conclusions:** Early referral to a tertiary centre with experience is crucial in ensuring correct diagnosis, appropriate management and optimal outcomes of this rare DSD.