

## SV12: ROLE OF LAPAROSCOPY IN DISORDERS OF SEX DEVELOPMENT

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**Background** Disorders of sex development (DSD) include a wide spectrum of chromosomal, hormonal and metabolic abnormalities that modify genital development. The multidisciplinary approach providing patient-centered care is critical to obtain long-term physical, psychological and sexual well-being. In this scenario the role of the surgeon is twofold: diagnostic and therapeutic. The aim of this analysis was to evaluate the usefulness of laparoscopy in DSD patients.

**Materials and methods** Laparoscopy was performed in 16 DSD patients over the last 8 years in a single paediatric surgical centre. We collected patients' demographic data, karyotype, hormonal test and radiological results, surgical details, histological results and post-operative complications.

**Results** 8/16 testicular dysgenesis DSD (6 46XY; 2 45X/46XY) with persistence of Mullerian remnants (absence of MIF), 4/16 Complete Androgen Insensitivity (CAI), 3/16 Rokitansky syndrome and 1 21OH-adrenogenital syndrome raised as a male were submitted to laparoscopy in order to precisely define the diagnosis and to plan the surgical treatment. 7/8 testicular dysgenesis had bilateral intrabdominal testis, 1 had ovotestis DSD diagnosed after testicular torsion. Diagnostic laparoscopy included: gonadal biopsies in 7/8 cases of testicular dysgenesis and laparoscopic inspections in the remaining 9 cases. 24 therapeutic laparoscopic procedures were performed in 16 cases: 4 gonadectomies (CAI), 3 Mullerian remnants removals, 7 bilateral orchiopexies and 3 laparo-assisted sigmoid neo-vagina.

**Conclusions** Paediatric surgeons have responsibilities to DSD patients in terms of diagnosis, treatment, management of urological complications, provision of surgical services when requested. In this peculiar field laparoscopy has the highest accuracy and efficacy improving exposure of gonads and Müllerian remnants. The detailed anatomical definition gave elements for the diagnosis and subsequent therapeutic planning. Laparoscopy is recommended for gonadal biopsy, orchidopexy and gonadectomy in case of ovotesticular DSD. Laparoscopic removal of Müllerian remnants and gonadectomy is performed to avoid infective and bladder outlet symptoms and the risk of malignant transformation. Prevention of germ cell tumour is one of the main concerns in DSD patients, given the incidence of gonadal tumours between 10 and 33%.

The role of laparoscopy in DSD patients is both diagnostic and therapeutic. Moreover it helps to devise a therapeutic strategy in complex cases. Beside the well-known advantages of minimally invasive approaches, multiple laparoscopic procedures can be performed in the same patient reducing the surgi-

cal invasiveness allowing a genital reconstruction in agreement with the patient-centered care.

**Key words** disorders of sex development, laparoscopy