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Andrology: The Role of the Pediatric Surgeon

Paolo Repetto*

Department of Pediatric Surgery, Modena Polyclinic University Hospital, Modena, Italy

Andrology is a branch of medicine that deals with male genitalia. It is prevailing belief that major issues that andrology deals with are male fertility and erectile dysfunction. Both occur in men or young adults. In this perspective, how does this involve the paediatric (urologist) surgeon? He is indeed very important. In children, surgical diseases involving male genitalia are common. They include a wide range of congenital and acquired problems making male genitalia the region more commonly operated in children. Whenever the paediatric surgeon operates male genitalia, correcting a congenital or acquired disease, he preserves future erectile and reproductive function thereby becoming an "andrologic" paediatric surgeon. Previously, I mentioned the frequency of surgical pathologies involving the male genitalia in children. Inguinal hernia repair is the most common operation performed by paediatric surgeons. The percentage of children with inguinal hernias ranges from 0.8% to 4.4 % [1]. Complicated (incarcerated or strangulated) hernia can damage both intestine and testicle by jeopardising the blood supply. Moreover, the most common complications in inguinal hernia repair are: testicular atrophy, injury to the vas deferens and iatrogenic undescended testicle. So during hernia repair (incarcerated or not), the paediatric "andrologic" surgeon should pay attention not to damage (transection or ligation) vas deferens or testicle blood supply. Yavetz et al. [2] reviewed 8500 patients referred to an infertility clinic, 565 of whom (6.65%) reported an incidence of inguinal hernia repair with or without testicular atrophy. In a landmark study in 1964, Scorer [3] found the incidence of undescended testes was 4.3% in infants. By 1 year of age, the incidence had fallen to 0.96%. In 1986 the incidence of cryptorchidism at 1 year of age was 1.58% in British children. For some years, orchidopexy has been recommended in the second year of life, but it is now common practice to recommend orchidopexy at 6 months or between 6 to 12 months of life. This because the first signs of damage to the testes are identified at about 6 months of age [4]. Fertility is lower in men with a past history of cryptorchidism. Paternity rates are not deficient in unilateral cryptorchidism in both animals and humans; but with bilateral cryptorchidism fertility rates are significantly impaired [5,6]. Again, the paediatric "andrologic" surgeon when operating a child with undescended testis or testes may or may not interfere with future fertility of the patient. As we have previously seen, not only is the right surgical technique important, but also the age when to operate the infant.

Another condition that the paediatric surgeon frequently has to face is hypospadias. This malformation, which occurs 1 in 125 live male births, may interfere both with fertility and erection. In the most severe cases (scrotal or perineal hypospadias), the surgical challenge is not only the reconstruction of the channel carrying urine and semen (urethra) but also to give penis and corpora cavernosa a good aesthetical apperance and a good erectile function. The previously described diseases are the most common to be corrected by the paediatric surgeon. Indeed, there are many other less frequent diseases involving male genitalia in children. Some of them (varicocele- testicular neoplasm) require simple surgical procedures, others (bladder and cloacal exstrophy, ambiguous genitalia and intersex abnormalities) require complex and multi-staged surgical reconstructions. In view of all the above mentioned determinations, I believe that the role of the paediatric surgeon is of relevant importance in the context of andrology, although this branch of medicine is mainly directed towards the adult male.

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***Corresponding author:** Paolo Repetto, Department of Pediatric Surgery, Modena Polyclinic University Hospital, Modena, Italy, Tel: +39-347-5458751, +39-059 925339; E-mail: repettopaolo@hotmail.com

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