

Paediatric Varicocele and Sports

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Abstract:

Background: *Does it exist a physiological correlation between the appearance of left idiopathic varicocele and the continuous practice of sports? Varicocele is a physical abnormality found in the 11% of adult males and in the 25% of those with abnormal semen analysis; this condition is an anatomic and functional anomaly which reveals itself in predisposed boys and in different times.*

Methods: *117 boys suffering from left idiopathic varicocele – second and third degree – were treated by specific therapy.*

Results: *83 boys of the whole treated group carried on the sports continuously – 71% -, while a clear minority – 34 boys (29%) – didn't effect any sporting activity.*

Conclusion: *The sports can signify an increase of the oxidative cellular stress, with possible anomalies of the spermatogenesis and an appearance of vascular dilation. The oxidative stress could interfere in the spermatogenesis and the vascular dilation. These are the most pressing questions for the actual clinical studies: the experience of the Authors seems to confirm this hypothesis.*

Keywords: *Paediatric disease – Varicocele – Oxidative stress*

1. INTRODUCTION

Varicocele is a physical abnormality found in the 11% of adult males¹ and in the 25% of those with abnormal semen analysis². Varicocele is a meshwork of distended blood vessels in the scrotum – usually on the left-side – due to dilatation of the spermatic vein. Although the concept that varicocele causes male subfertility has been around for more than 50 years, the mechanism by which varicocele would affect fertility is not yet clear. Therefore there isn't any sufficient evidence to explain the mechanisms by which varicocelectomy would restore fertility. Furthermore, it has been questioned whether it exists a cause at all between the distension of the pampiniform plexus (a network of many small veins found in the human male spermatic cord) and impairment of fertility. The therapeutic approach for adolescent varicocele remains that of the patient to undergo several treatments, to be compared according to safety and effectiveness³.

2. BACKGROUND

Varicocele is an anatomic and functional anomaly which reveals itself in predisposed boys and in different times. The Authors valued if there were some conditions able to make easier the appearance of paediatric varicocele; the main correlative interest was about sports⁴⁵.

3. MATERIALS AND METHODS

117 boys suffering from left idiopathic varicocele – second and third degree – were treated by specific therapy: 62 with high ligation of spermatic vessels and 55 with antegrade sclerotherapy (Fig. 1). The range of age in the treated boys was 11-14 years old (13 boys-11 years old; 18 boys-12 years old; 34 boys-13 years old; 52 boys-14 years old). We obtained the informed consent by the parents and the ethics approval according to Helsinki Declaration.

TREATMENTS

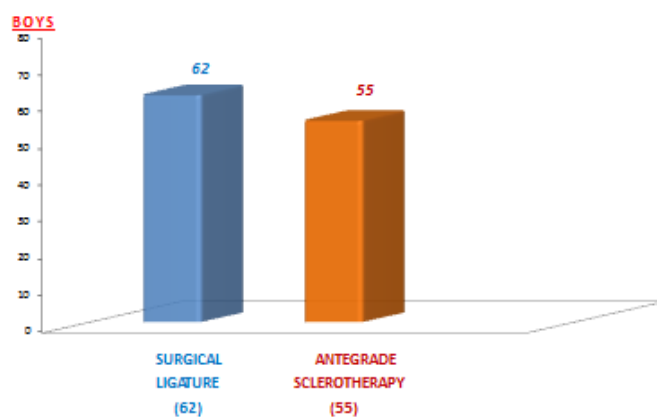


Figure1. Different treatments for the left varicocele

4. RESULTS

83 boys of the whole treated group carried on the sports continuously – 71% -, while a clear minority – 34 boys (29%) – didn't effect any sporting activity (Fig. 2). Different sporting activities were represented, mostly the football and the cycling. A continuative sporting activity represents the engagement for three days/week and eleven months/year, at least.

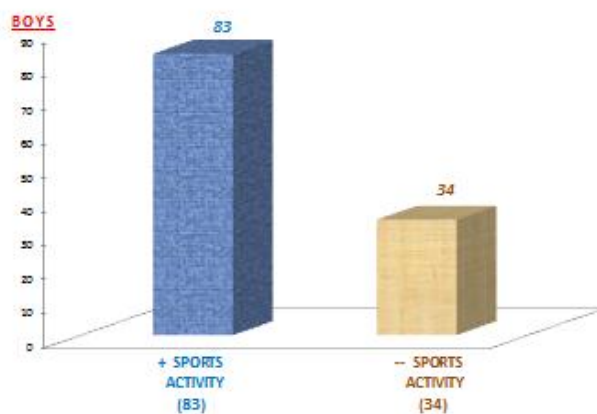


Figure2. Frequency of sporting activity in the treated boys

5. DISCUSSION

There is a clear variability on treatment of paediatric varicocele, still now⁶. This aspect indicates an uncertainty about the therapeutical approaches to the problem. The variability regards both the surgical treatments (like the ligature of the vessels or the veins on a different level and like the various vascular anastomoses) and the others therapies (antegrade or retrograde sclerotherapy, retrograde embolisation)⁷. In our opinion the treatment of paediatric varicocele ought to be done at the first diagnosis, in order to prevent a possible future infertility⁸ thus allowing the regular testicular growth⁹. Unavoidably for adolescents the functional fertility evaluation is not possible, for ethical reasons and physical ones (hormone release).

The sports can signify an increase of the oxidative cellular stress, with possible anomalies of the spermatogenesis and an appearance of vascular dilation¹⁰.

6. CONCLUSION

It is reasonable to hypothesize, by our data (the low number of our sample not yet determines statistical settlements), a more frequent early manifestation of the idiopathic varicocele for the boys who carry on the sports *continuously*: the comparative frequency of the boys suffering from varicocele is higher than the general national frequency of the sporting adolescent

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