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LETTER TO EDITOR

**THE STRONG NEGATIVE IMPACT OF VARICOCELE ON SPERM MORPHOLOGY AND INFERTILITY: A CASE REPORT****ANDRADE-ROCHA F.T.<sup>1</sup>, CARDONA MAYA W.D.<sup>2\*</sup>**<sup>1</sup> Lisa Andrology Lab, Petrópolis, Rio de Janeiro, Brazil<sup>2</sup> Department of Microbiology and Parasitology, Faculty of Medicine, Reproduction Group, University of Antioquia, Medellín, Colombia

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**ABSTRACT**

*Introduction: Varicocele is a prevalent disorder affecting sperm quality and male fertility, with a higher incidence in infertile men. Some evidence has also indicated that varicocele may negatively impact the germinal epithelium, causing the seminal stress pattern of an increase in immature germinal cells and amorphous and tapered sperm in semen. Generally, a man must undergo a varicocelectomy to repair this disorder.*

*Clinical case: This case report aims to present the semen analysis of a 49-year-old man with bilateral varicocele who was diagnosed with male infertility. The patient presented with a normal sperm concentration but severe teratoasthenozoospermia, low viability and a high prevalence of tapered sperm, individually and in combination with other abnormalities.*

*Discussion: The present case report provides valuable information on the negative impact of varicocele on male fertility, which is highlighted by significant changes in the analyzed seminal parameters. While the patient had a normal sperm count, the reported outcomes showed severe teratoasthenozoospermia, greater impairment of sperm vitality, a greater prevalence of tapered sperm (17%), and combined abnormalities (48%). This means that approximately half of the sperm cells were tapered. Consequently, the percentage of morphologically normal sperm was low (0.07%), which indicates a strong negative impact on the patient's reproductive ability.*

*Conclusion: This report emphasizes the importance of comprehensive semen analysis for evaluating potential fertility limitations in varicocele patients.*

*This study also highlights the importance of performing a detailed semen analysis to evaluate sperm quality in patients with varicocele, which may affect their chance of pregnancy.*

**KEYWORDS:** varicocele, sperm, fertility, teratoasthenozoospermia.**INTRODUCTION**

Varicocele is a disorder that affects countless men worldwide (15-20% of the general population). In many men, it impairs sperm quality and harms male fertility (30-40% in infertile men) [Su J *et al.*, 2021]. Generally, a man must undergo a varicocelectomy to

repair this disorder [PCASR, 2014].

Varicocele affects sperm morphology, causing damage to sperm structure, mainly in the acrosome and nucleus. This leads to male infertility and adversely affects sperm motility and vitality and, to a

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