INTRODUCTION

Spermatogenesis is a process of cell differentiation characterized by mitotic and meiotic divisions, which transform the stem spermatogonia into final mature spermatozoa. This process leads to a clonal expansion that must be counteracted by mechanisms able to control the overproduction of male gametes. In recent years considerable evidence has accumulated to suggest that apoptosis is responsible for cellualr proliferation control in the testis ***(Sinha Hikim and Swerdloff, 1999) .***

Apoptosis is a mode of cellualr death based on a genetic mechanism that induces a series of cellular, morphological and biochemical alterations, leading the cell to suicide ***(Nagata, 1997).***

The process is genetically controlled and can be triggered by an internal clock or by extracellular agents such as hormones, cytokines and numerous chemical, physical or viral agents ***(Gandini et al., 2000) .***

Peak germ cell loss has been observed during the stages of mitosis of type A spermatogonia, meiotic division of spermatocytes, and during spermiogenesis. The percentage of germ cells undergoing apoptosis in normal subjects is significantly lower than that seen in men with oligoasthenoteratozoospermia ***(Edward et al., 2002) .***

Characterization of regulators responsible for altered apoptosis in human male infertility may lead to new therapeutic modalities involving the reversal or inhibition of the apoptotic process ***(Tesarik, 1996) .***

The aim of this the work

Is to review spermatogenesis & spermiogenesis & spotlight on the role of apoptosis in normal spermatogenesis and spermatogenic dysfunction and its relation with varicocele.