



Short Communication

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Does Bodily Temperature Explain the Discordant Age Incidence of Gonadal Schistosomiasis?



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Abstract

Whereas the ovary lies within the warm inside of the pelvis, its male counterpart, the testis, hangs coolly outside the body. This is on account of the natural function of the cremaster muscles of the scrotum. Therefore, it is epidemiologically unique on two grounds. First, 9 cases each of ovarian and testicular examples were found in a 30-year biopsy series obtained among a Nigerian ethnic group. Secondly, they occurred in precisely different age groups. Accordingly, it is suggested that temperature is responsible. Moreover, this hypothesis should be tested along the schistosomiasis belt worldwide. It is concluded that a positive finding will help in advancing bio-medical principles.

Introduction

Although the ovary and the testis function in the same way in females and males, the one lies inside the warm interior of the pelvis while the other hangs outside the body coolly. This is due to the natural temperature regulation which is a favorable function of the scrotal muscles [1]. Does this special site confer any advantage in disease? In particular, consider schistosomiasis. Nine cases of it were seen in the testis as well as in the ovary in a Reference Laboratory serving the Ibos [2], a populous ethnic group in Nigeria, West Africa. Surprisingly, the age patterns differed distinctly. Therefore, it became necessary to develop a hypothesis for its explanation, especially as important principles of science may be discovered.

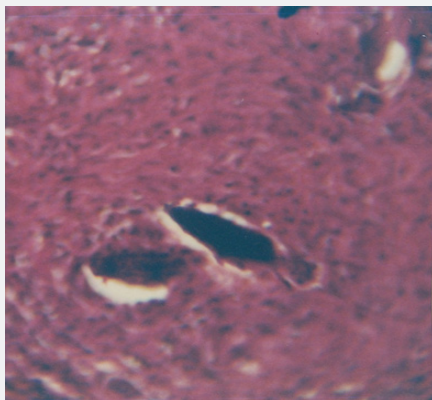


Figure 1: Arrow showing typical terminally spined schistosome ovum with adjacent foreign-body giant cell and inflammatory exudates.

Investigation

The present paper is an analysis of the 30-year histopathology data pool on schistosomiasis with reference to the terminal spined haematobium type. (See Figure 1). This is in keeping with the epidemiologic practice which was suggested by a UK group [3], that proposed that a histopathology data pool facilitates epidemiological analysis. This was done in respect of an Ethnic Group, the Igbo [4] who use a Regional Reference Laboratory which I ran from 1970-2000. There were 9 cases each of both ovarian and testicular cases. However, they were seen in strictly different age groups, i.e., ovary from 20 to 50 years range and testis from 0-19 years respectively.

Discussion

Clearly, the age patterns differ. Therefore, it is hypothesized that the difference is probably not one of structure but one of site with reference to temperature. Accordingly, this odd pattern is open to research worldwide. It is of interest that the Internet search of the recent literature revealed a Taiwan case of 31 years old woman with ovarian schistosomiasis [5]. In a Tanzanian case [6], the testis was involved at the age of 9 years. Therefore, both findings are in keeping with the present series. Unfortunately, a histopathology review from Ghana contained neither testicular nor ovarian examples [7].

Conclusion

It is hoped that the above definite finding concerning the discordance in age presentation will pave the way to advancing bio-medical knowledge of schistosomiasis world wide.

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