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BRIEF REPORT
TESTICULAR BIOPSY IN MALE INFERTILITY

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This brief report is an analysis of 295 testicular biopsies done in private clinics and studied at our laboratory from 1970 to 1977. All of these patients had 3 to 4 previous semen examinations which revealed azoospermia or severe oligospermia. 286 of these biopsies were obtained through surgical incisions and 9 by puncture. Six of the needle biopsy specimen, between 3 and 5 mm in their greatest dimension, were fixed in Bovin or 10% formalin before processing. the paraffin blocks were cut at 4 micron sections and stained with H & E. Special stains were also used for further study, in some cases.

The data, with a breakdown by diagnosis, is represented in Table I.

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TABLE I

Histopathological Classifications of 295 testicular biopsies specimens

Histopathological Findings	No. of Specimens	% (calculated out of N = 288 i.e. 295-7)
1. Normal history with good spermatogenesis	24	8.3%
2. Maturational arrest of sperms in varying stages: — clinical oligospermia — tubules, sertoli cells lamina propria and Leydig cells normal	47	16.3%
3. Cryptorchism: (2 of the 4 specimens came from same patient age 16 years) — small immature tubules with few spermatogonia — tubules lined by sertoli cells only — basement membrane and Leydig cells normal — (one patient, age 19, showed tubular hyalinization, absence of all epithelial cells and thickened basement membrane.)	4	1.3%
4. Klinefelter syndrome: — marked peritubular fibrosis — Leydig cell hyperplasia. — tubular epithelium with only few germ cells — absence of spermatogenesis. — clinical azoospermia	1	0.3%
5. Auto-immune (?) orchitis without spermatogenesis: — Infiltration of the stroma of the testis by lymphocytes and plasma cells — secondary tubular atrophy — absence of spermatogenesis — some lymph nodules with the germinal centers (like changes in Hashimoto's disease) — clinically azoospermic	2	0.6%
6. Mild tubular atrophy with moderate Spermatogenesis — clinically oligospermic — seminiferous tubular lined with 3 - 4 rows of germ cells — Seminiferous lumen had 20-30 spermatozoa — basement membrane and sertoli cells normal	41	14.2%

7. Moderate tubular atrophy with mild spermatogenesis: — clinically severe oligospermia — seminiferous tubules lined with 3 rows of germ cells — lumen had 10 sperms — basement membrane slightly thickened and Leydig cells moderately increased.	49	17%
8. Severe tubular atrophy with complete absence of spermatogenesis: — clinically azoospermic — seminiferous tubules had no germ cells — seminiferous lumen with only one layer of sertoli cells (hence the name sertoli-cells-only-syndrome — Basal lamina of tubules not thickened — Leydig cells normal — no inflammation noted.	56	19.4%
9. Progressive peritubular fibrosis hyalinization of lamia propria and complete absence of spermatogenesis — clinically azoospermic with tubules showing no spermatogenesis — severe fibrosis thickening and hyalinization of basement membrane and thinning of germinal epithelium — tubules with one layer of atrophic cells or no epithelium at all — no inflammatory reaction — Leydig cells intact	59	20.4%
10. Chronic nonspecific orchitis without spermatogenesis. — clinically azoospermic — interstitial fibrosis + — moderate thickening of basal lamina — tubules lined with sertoli cells and few germ cells	6	2%
11. Unsatisfactory specimen. — biopsy specimen had fibrous tissue with few or very scanty tubules	7	2.4%

150 of the above 295 specimens came from 75 patients, taken as bilateral biopsies. A breakdown of the results of comparsion of left vs right side biopsy is shown in Table II.

TABLE II

Histopathological correlation on 75 cases of Bilateral testicular biopsies

Hispathological findings	Cases	%
Similar findings on both sides:	34	45%
Different findings on two sides:	41	55%
Lesion more severe:		
in the right testis	13	31.7%
in the left testis	28	68.3%

Testicular biopsy if undertaken as part of a planned study, which includes a full history, thorough physical examination, other appropriate assessments, and semen examinations, may prove to be a valuable tool in the study of male infertility.

Our data indicates that in azoospermic males both testicles must be biopsied because in the majority of cases (more than 55% in our series and 70% to 80% in the series reported by others) the lesions in the two testes were not alike. So treatment plan and the assessment of prognosis may be more accurate if based on separate biopsies of each testes.

Of the nine needle biopsy specimens received, six were unsatisfactory or insufficient for examination (a failure rate of 64.4%). This indicates that incisional biopsy should be the preferred method of specimen collection, at least until the needle biopsy technique becomes more reliable.

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