

longest documented survival for renal medullary carcinoma was 15 months (6). Exceptionally, the 8-year-old African-Brazilian patient with a circumscribed mass described in the study is alive and free of recurrence 8 years after diagnosis. Chemotherapy has been known to prolong survival by few months but generally, neither chemotherapy nor radiotherapy has altered the course of the disease (7).

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INVESTIGATIVE UROLOGY

Structural organization of fibrous connective tissue in the periacinar region of the transitional zone from normal human prostates as revealed by scanning electron microscopy

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Objective: To analyse, using scanning electron microscopy (SEM), the organization of stromal fibrous components in the transitional zone (TZ) from normal human prostates; because of its association with disease, greater emphasis was placed upon the periacinar region of the stroma.

Materials and Methods: TZ specimens were obtained from normal prostates during autopsy of six men, aged 18-30 years, who had died from accidents. Tissue was fixed for SEM in a modified Karnovsky solution for 48 h at 4 degrees C, and to visualize the three-dimensional organization of the stroma, samples were treated to remove cells.

Results: In acellular preparations, narrow fibrous septa formed a dense and supportive scaffold for ducts and acini, and a smooth and homogeneous fibrous sheet, herein identified as pars fibroreticularis, lined the acinar

lumen. More internally, fibrous septa had a spongy organization with dense lamellae. Higher magnification showed that the smooth luminal sheet is made of 115-154-nm thick fibrils in a tight parallel arrangement. Just under this layer there was a meshwork of fibrils 77-115 nm thick that were orientated in less defined directions. Conclusion: In the TZ of the human prostate, dense stromal fibrous components around acini act as a barrier that might enhance local cellular responses and events that occur in disorders such as benign prostatic hyperplasia. The periacinar pars fibroreticularis supports the notion of high structural variability in this region of basement membranes.

Editorial Comment

The transitional zone (TZ) is particularly relevant for prostate pathology as it is thought to be the main region of the gland that enlarges in BPH.

The present findings show that in the TZ of the human non hyperplastic prostate, dense stromal fibrous components around acini may act as a diffusion barrier that might enhance local cellular responses and events that are known to occur in disorders such as BPH. The periacinar stroma also includes a distinct pars fibroreticularis, and this supports the notion of high structural variability in this region of basement membranes.

The normative findings on prostate TZ presented here will also serve as comparison for future findings of this region in patients with BPH.

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Relationship between adult dark spermatogonia and secretory capacity of Leydig cells in cryptorchidism

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Objective: To examine whether hormonal therapy before orchidopexy affects the histology of the testis and to assess the responsiveness of the Leydig cells, as it has been shown that although basal plasma testosterone levels are within the 'normal' range in cryptorchid boys there is an insufficient increase of testosterone after a human chorionic gonadotrophin (hCG) stimulation in approximately 30% of cryptorchid boys.

Patients and Methods: In all, 55 boys (aged 1-7 years) with a unilateral undescended testis were included in the study and divided into two groups. Group I (32 boys) received hormonal therapy before orchidopexy; 17 boys received a long-acting LHRH analogue (buserelin) administered as a nasal spray in doses of 20 microg/day for 28 days, followed by 1500 IU hCG intramuscularly (i.m.) once a week for 3 weeks, and the remaining 15 received 1500 IU hCG i.m. once a week for 3 weeks. Group II (33 boys) had orchidopexy alone. During orchidopexy biopsies were taken from the undescended and contralateral descended testes of the boys in both groups for histological analyses. Variations in the number of adult dark (Ad) spermatogonia per tubule (Ad/T) were assessed and testosterone levels were measured during the course of the hormonal therapy (before treatment, 14 days after initiation of buserelin administration, 24 h after each hCG injection, and 3 months after cessation of therapy).

Results: In group I, 17 boys (53%) had a 'normal' Ad/T after hormonal treatment vs only six (18%) in group II after orchidopexy alone ($P = 0.019$). In the hormonally treated boys (group I) we compared the testosterone

values 24 h after the second injection of hCG (when the response was most pronounced). Those with a normal Ad/T had a mean (sd) testosterone level of 199.5 (97.6) ng/dL vs 99.6 (85) ng/dL in those with an inadequate Ad/T response to hormonal therapy ($P < 0.003$).

Conclusion: We have confirmed that there are two subgroups of cryptorchid boys. Patients with a sufficient Leydig cell secretory capacity will have normal testicular histology and Ad spermatogonia count after hormonal treatment. While those with a suboptimal Leydig cell capacity will have a low Ad spermatogonia count and consequently poor prognosis for future fertility, despite successful surgery. As to whether different types and durations of the hormonal therapy in patients with impaired Leydig cell response could lead to improved testicular histology and consequently improved prognosis for future fertility, remains to be answered.

Editorial Comment

This paper presents new important insights on the understanding of cryptorchidism and its treatment and I will highlight some important points.

The authors demonstrated for the first time, that the transformation of gonocytes into Ad spermatogonia is a testosterone-dependent process. If an adequate increase in plasma testosterone follows hormonal stimulation, normal germ-cell maturation occurs. Patients that have an insufficient Leydig cell response to hormonal stimulation, resulting in an inadequate testosterone increase, will have poor testicular histology and a low Ad spermatogonia count.

Interesting, the authors concluded that appears to be two subgroups of cryptorchid boys; those with a sufficient Leydig cell secretory capacity and those with a suboptimal Leydig cell secretory capacity.

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RECONSTRUCTIVE UROLOGY

Resurfacing and reconstruction of the glans penis

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Objectives: To describe the techniques and results of surgical reconstruction of glans penis lesions.

Methods: Seventeen patients (mean age: 53.2 yr) were treated by resurfacing or reconstruction of the glans penis for benign, premalignant and malignant penile lesions. The aetiology of the lesions was one Zoon's balanitis, four lichen sclerosus, one carcinoma in situ, five squamous cell carcinomas, and six squamous cell carcinomas associated with lichen sclerosus. Five cases were treated by glans skinning and resurfacing; five cases by glans amputation and reconstruction of the neoglans, and seven cases by partial penile amputation and reconstruction of the neoglans. Glans resurfacing and reconstruction were performed with the use of a skin graft harvested from the thigh.

Results: The mean follow-up was 32 mo. All patients were free of local premalignant/malignant recurrence. Patients who underwent glans resurfacing reported glandular sensory restoration and complete sexual ability. Patients who underwent glansectomy or partial penectomy with neoglans reconstruction maintained sexual function and activity, although sensitivity was reduced as a consequence of glans/penile amputation.