Mechanisms in the Association of Cryptorchidism and X-Linked Recessive Ichthyosis

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Sir,

The data of Unamuno et al. [8] on the high incidence of cryptorchidism in X-linked recessive ichthyosis are of considerable interest, in particular to those concerned with pediatric dermatology. For an affected boy the sequels of untreated cryptorchidism may be far more serious than the ichthyosis. Following our report [7] on this association dealing with seven instances of cryptorchidism out of a series of 25 patients with X-linked recessive ichthyosis, and a recent communication of Lykkesfeldt et al. [2] on 9 cases of testicular maldescent among 76 such patients and 3 additional affected patients with normally descended gonads who developed testis cancer, this is now the the third study confirming a high frequency of cryptorchidism in X-linked recessive ichthyosis, reporting 9 cases out of a series of 22 patients [8].

How can the apparent association of cryptorchidism and X-linked recessive ichthyosis be explained? The simplest answer is to consider testicular maldescent a further manifestation of steroid sulfatase deficiency. Even in the absence of cryptorchidism patients with X-linked recessive ichthyosis exhibit an abnormal androgen and estrogen metabolism that is characterized by elevated levels of LH and estrone sul-fate, a lack of decline of dehydroepiandrosterone sul-fate in older age, and low androstenedione and estradi-ol levels [3]. Surprisingly, testosterone remains nor-

mal. This is probably due to the compensatory increase of LH [3]. LH plays an important role in normal testicular descent as is evidenced by the usual effectiveness of a HCG treatment.

Therefore it is conceivable that testicular descent in X-linked recessive ichthyosis may require higher LH levels than in normal persons and that in some of the patients the LH levels will not be sufficient.

A second possible mechanism giving rise to cryptorchidism in X-linked recessive ichthyosis are cytoge-netic aberrations involving the short arm of the X-chromosome such as X-Y translocations [4,6] or the loss of the distal part of the short arm of the X-chromosome (Xp-) [1, 5]. In these cases, secondary steroid sulfatase deficiency occurs due to deletion of the steroid sulfatase gene. These deletions usually also involve genes in the neighborhood of the steroid sulfatase gene. Therefore patients with such a cytogenetic aberration present with a broad spectrum of associated symptoms such as cryptorchidism, hypogenitalism, mental retardation and even anosmia with hypogona-dotropic hypogonadism (Kallman syndrome). These deletions are inherited in a dominant pattern and their expressivitiy in female carriers is rather low [1, 4-6]. Due to a founder effect they are most likely not distributed evenly in larger populations,

which could account for the observed differences in the percentage of patients affected with cryptorchidism in the various regions of Europe.

The two mechanisms discussed here to explain the association of cryptorchidism and X-linked recessive ichthyosis are not mutually exclusive, but rather may both contribute to this association.

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Cutaneous Immunofluorescence in Hepatitis B Virus Infections

Sir,

We were interested to read the article by De Maubeuge et al. [1] reporting 2 cases where a cutaneous vasculitis revealed the existence of chronic hepatitis. We also think that the frequency of this association is certainly underestimated. In a recent study [2] we stressed the importance of immunofluorescent testing (IF) of skin tissue for the HBs antigen in infections that could be caused by the B virus. We observed antigen HBs deposits in the dermal vessels, associated in some cases with IgM and C3 in 7 of 22 HBs-positive cases (5 of 16 cases of chronic hepatitis and 2 of 6 cases of polyarthritis nodosa). The samples were taken from pathological skin in 2 cases (one of palpable purpura, one of dermohypodermal nodules) otherwise from normal skin.

This examination seemed of particular interest to us in cases where the results show no HBs antigen in the serum. Of 12 HBs-negative readings (8 cases of chronic hepatitis and 4 of polyarteritis nodosa) we observed the presence of these deposits in 3 cases. Thus a cutaneous IF combined with an IF of the liver biopsy to trace the presence of HBs and HBc antigens makes it

possible to establish a connection between certain cases of chronic hepatitis and vasculitis and the B virus, when there are only anti-HBs and/or anti-HBc antibodies in the serum [3], as De Maubeuge et al. found in their first observation.

One can obtain even better results from the IF examination, as shown by Trepo et al. [4], if the biopsy is preceded by an intradermal injection of histamine phosphate.

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