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LETTER TO THE EDITOR

Response: the hypothalamus–pituitary–testis axis in cryptorchid boys

Dear Sir,

We are grateful for the interest of Professors Hadziselimovic, Emmons and Snyder (Hadziselimovic *et al.*, 2008) for our paper on hormone levels in normal boys and boys with cryptorchidism or hypospadias (Pierik *et al.*, 2008). They point out a controversy between our above mentioned paper and an earlier paper of Dr De Muinck Keizer-Schrama *et al.* (1988) in which HPT hormones were measured in another group of cryptorchid boys and in controls. In the latter study, no significant difference between the testosterone levels in the two groups was detected, whereas in our more recent study a significant difference was found. Prof Hadziselimovic and co-authors enquire: ''What changed in the last 20 years?''.

We would like to point out that the population-based selection of boys in our recent study was different from the hospital-based design in the previous study. The boys in our recent study were aged between 35 and 184 days (mean: 80 days) at the time of blood collection. This contrasts with the group reported earlier in which samples were collected from the cryptorchid boys between 80 and 420 days-of-age. In the earlier paper, it is stated ''the sign test revealed no significant differences in the three groups (controls, and boys with persistent or transient cryptorchidism) from the age of 80 to 180 days''. We now stated that ''the lower testosterone in the cryptorchid boys was mainly due to a higher proportion of testosterone levels below the detection limit among boys that were 100 or more days old, suggesting that in cryptorchidism cases the androgen nadir may be reached more rapidly''. Because the levels of hypothalamus–pituitary–testis axis hormones change dramatically in the first 6 months of life, we adjusted for the 'time since birth' in the latter study, applying statistical techniques that were not available in 1988. As we adjusted for the country of origin, we do not think that the increase of the Turkish population in Rotterdam during the last 20 years plays an important role. As described in the paper, we reached identical conclusions when the statistics was applied to the subjects of Dutch origin only. Finally, we already stated that we did not have data on the severity of the cryptorchidism in all cases.

In conclusion, the differences in population characteristics (e.g. the age distribution) and in the statistical techniques used are likely to explain the difference between the results of the two studies as far as the question asked is concerned. We do not see how the histology of the testes could be of help in deciding if testosterone levels in control and cryptorchid boys are different.

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