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Editorial Comment

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In a recent editorial comment in Urological Research [1], Dr. Hadziselimovic indicated that Dr. McCullough et al. [2] challenged some of this observations on testicular descent. The purpose of the sited work [2], as well as previous work on the ACI rat [3] was not to address the question of the effect of an epididymal abnormality on the descent of the testes. On the other hand, observations in the ACI rat may challenge Dr. Hadziselimovic's concept that the epididymis is the primary "motor of testicular descent".

First, it should be pointed out that the testicular descent does not occur immediately at birth in rats. To state that newborn rats were cryptorchid is misleading. Dr. Hadziselimovic then indicates that we found some adult rats with cryptorchidism with complete lack of the epididymis [3]. In that paper [3] we stated that the atrophic testes in affected animals "cannot be explained by cryptorchidism because the testes generally are found in a scrotal position at autopsy." Although we did not calculate a precise percentage of cryptorchidism in adult ACI rats, there was a high rate of testicular descent in affected animals in spite of the absence of any grossly discernable epididymis. In the fetus or neonate occasionally a few small tubules of epididymis can be recognized microscopically as part of the caput epididymidis [4]. The vast majority of the epididymis is not present. Clearly, these animals have a major epididymal abnormality and still manage to have testicular descent. There are multiple strains of ACI rats so that it is possible that all of these rats may not behave similarly.

Lastly, Drs. Frey and Rajfer have surgically removed the epididymis in rats and 75% of these rats still had testicular descent [5]. The ACI rat and the findings of Drs. Frey and Rajfer clearly imply that the epididymis is not a necessary feature in testicular descent. These findings clearly render suspect Dr. Hadziselimovic's hypothesis that the epididymis is the primary ingredient in testicular descent. We agree with him that more work needs to be done, but we think that much work has already indicated that the epididymis is not always critical for testicular descent.

References

1. Hadziselimovic F (1984) Mechanism of testicular descent. Urol Res 12:155–157
2. McCullough R, Marshall FF, Berry SJ, Detweiler C (1984) The influence of epididymal agenesis on the development and maturations. Urol Res 12:165–170
3. Marshall FF, Ewing LL, Zirkin BR, Cochran RC (1982) Testicular atrophy associated with agenesis in the epididymis and the ACI rat. J Urol 127:155–158
4. Marshall FF, Reiner WG, Goldberg BS (1979) The embryologic origin of the caput epididymidis in the rat. Invest Urol 17:178–182
5. Frey HL, Rajfer J (1982) Epididymis does not play an important role in the process of testicular descent. Surg Forum 33:618–619

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