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REVIEW

The hormonal control of testicular descent

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Descent of the testes is a complex event mediated by hormonal and mechanical factors. At present we hypothesize that testicular descent occurs as the result of the secretion of descendin from a normal testicle. Descendin secretion results in selective growth of the gubernacular cells. Gubernacular outgrowth results in masculinization of the inguinal canal. At the beginning of testicular descent, the patent processus migrates into the inguinal canal, transmitting intraabdominal pressure to the gubernaculum. The gubernaculum in turn applies traction to the testicle to introduce the testicle into the inguinal canal. Descent of the testes into and through the inguinal canal is an interplay between intraabdominal pressure transmitted by a patent processus vaginalis and androgen-induced gubernacular regression. Specifically, we hypothesize that androgens under control of an intact fetal hypothalamic-pituitary axis alter the viscoelastic properties of the gubernaculum. Reductions in the turgidity of the gubernaculum allow intraabdominal pressure to push the testicle into the scrotum. Functional abnormalities in any of the above factors will result in cryptorchidism.

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