A six-year-old castrated male Thoroughbred was presented to the North Carolina State Theriogenology Service for stallion-like behavior and a serum estrone sulfate concentration of 17.50 ng/ml (reference: gelding <5 ng/ml; stallion/cryptorchid >10 ng/ml), consistent with cryptorchidism. Transrectal ultrasonography detected no structures resembling a retained testicle. A human chorionic gonadotropin (hCG) stimulation test was performed and blood collected before and two hours after administration of 6000 IU of hCG intravenously. Serum was submitted to University of California- Davis Clinical Endocrinology Laboratory for measurement of anti-Mullerian hormone (AMH) and testosterone concentrations. The concentration of AMH was 0.1 ng/ml (reference: cryptorchid >0.15 ng/ml) and testosterone concentrations pre-hCG and post-hCG stimulation were 7.7 ng/ml and 17.7 ng/mL, respectively (reference: gelding <15 ng/ml; inconclusive 50-100 ng/ml; cryptorchid 100-500 ng/ml). These results were not diagnostic for cryptorchidism, however, due to persistent stallion-like behavior, the owner elected to pursue exploratory laparoscopy. During the standard flank laparotomy, a 4x4 cm tissue structure was observed hanging in the left flank and retrieved from the left inguinal ring region. Histopathology examination showed arterial and venous profiles with large nerve bundles arranged in a loose connective tissue and adipose matrix, normal vaginal tunic constituents not normally seen in castrated animals. After a post-surgical rest-period, the gelding was returned to work and displayed none of the previous behavioral issues.

Although hormone testing and histopathology did not conclusively support cryptorchidism, the improved behavior postoperatively indicates the mass in the inguinal region may have induced the stallion-like behavior.

Retained testicular tissue is a common cause of behavioral problems and increases risk of neoplasia for affected animals. This case demonstrates the role of both serologic and laparoscopic diagnoses for animals with persistent behavioral issues.