Smooth muscle: Intravenous leiomyomatosis

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Clinics and pathology

Etiology
Intravenous leiomyomatosis (IVL) is a rare smooth muscle proliferation of special interest because of its quasi-malignant behavior.

Clinics
IVL is a smooth muscle proliferation that arises from the uterus with vermiform extensions in some cases into the inferior vena cava and ultimately into the right heart.

Pathology
The neoplastic smooth muscle of intravenous leiomyomatosis resembles that of benign uterine leiomyomata and may include the same histological variants found in the uterus. Furthermore, the neoplastic smooth cells of IVL express estrogen and progesterone receptors and tumor growth appears to respond to hormonal manipulation.

Treatment
Although benign, its hemodynamic effects may require invasive extirpation.

Cytogenetics

Cytogenetics Morphological
There are only two cytogenetic reports in IVL and both exhibited a karyotype with a der(14)(12;14)(q15;q24) and two normal copies of chromosome 12. Fluorescence in situ hybridization revealed three copies of HMGA2 (a.k.a. HMGIC): two signals were detected on the normal chromosomes 12 at 12q15, as well as another on the der(14) in the breakpoint region, suggesting that the 12q breakpoint occurred 5' (centromeric) to HMGA2, as has been commonly observed and previously described in uterine leiomyoma with a t(12;14). Based on these findings, it has been suggested that the pathogenesis of IVL is more similar to that of typical uterine leiomyoma than it is to leiomyosarcoma.

References

This article should be referenced as such: