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Letter to Editor

The mysterious extravillous trophoblast

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To the editor

Extravilluos Trophoblast (EVT) is a truly special cell. It has a temporary character and tumor-like behavior and tumor-like appearance, all of which seem to belong to the malignancy field [1,2]. It is also known as intermediate trophoblast, derived from cytotrophoblast [3-5], having formed between the latter and the syncytiotrophoblast. EVT is capable of reaching the decidua through trophoblast cell columns that connect the anchoring villi to the basal plate in early gestation.

The invasive trophoblast penetrates the decidua, thereby bringing about the remodeling of the maternal arterioles. Two kinds of EVT combine to carry out this function: the endovascular ET and the interstitial ET.

EVT possesses an invasive capacity similar to that of tumoral cells and its appearance is characterized by large polyhedral to a spindled cell whose cytoplasm is usually purple in color, accompanied by anisocytosis. Its cellular makeup could be mono or bi-nucleate, simultaneously exhibiting anisonucleosis, nucleomegaly, nuclear hyperchromasia, and pleomorphic nuclei (Figure 1). In the image included herein, we notice the aberrant, highly conspicuous, and, frankly, monstrous features of EVT in photomicrographs taken of term placentas in routine cases. Despite anticipating the grotesque appearance of EVT, these additional fields draw the pathologist´s attention and always cause the said observer to rule out other diagnoses possibly associated with cells of similar appearance, including those of viral diseases. In these cases, it has therefore been possible to rule out such etiologies.

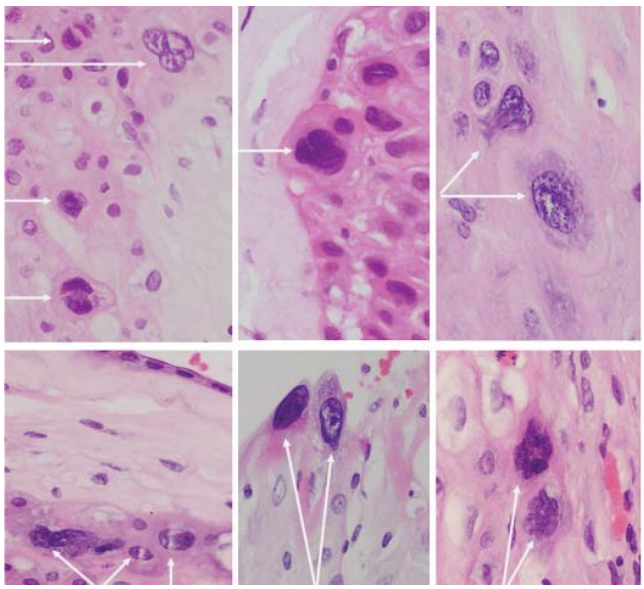

Figure 1: The appearance of the extravillous trophoblast (EVT) (marked with arrows): A- Mono or multinucleated cells presenting anisonucleosis: B- Conspicuous nuclear hyperchromasia. C- Atypical nucleus with active chromatin and convolute shape; D- Nucleomegaly marked in comparison with the decidual nucleus (above); E- Evident nuclear hyperchromasia and prominent nucleoli compared to the decidual nucleus (bottom); F- Convoluted, huge and hyperchromatic nucleus of EVT.

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The features described above make EVT a different and interesting cell, the knowledge of which could aid in understanding not only the bases of alterations in placentation and its consequences, especially preeclampsia but also in recognizing the behavior of tumor cells in their transformation and invasion processes.

Contribution

Olaya-C Mercedes: I declare that I participated in the concept design, acquisition of images, literature review, and drafting of this manuscript; and that I have seen and approved the final version.

Franco Jorge A: I declare that I participated in the acquisition of images, literature review, and drafting of this manuscript; and that I have seen and approved the final version.

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