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Pancreatic Neuroendocrine Tumour in Pregnancy - Diagnosis and Treatment Management

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Abstract

Digestive cancers diagnosed during pregnancy are rare and are sporadically reported. The shift of pregnancy towards the age interval of 30-39 years old (and even 40-49 years old) could explain the more and more frequent superposition of pregnancy and cancer. Pancreatic Neuroendocrine Tumours (PNET) originate in the insular endocrine tissue and are extremely rare; they have a slow, less aggressive neoplastic development, with the capacity of secreting and storing different peptides and neuroamines. From the large group of NET tumours, approximately 70% have a gastroenterohepatic (GET) localisation and represent less than 2% of the digestive tract tumours. PNET incidence is extremely reduced, of approximately 1/100.000. The association of pregnancy and PNET in literature is exceptional until now only 39 cases were reported. The most frequent PNET in pregnant patients is the insulinoma with the starting point in pancreatic β-cells, with 27 out of 39 PNET worldwide reported cases until 2012. Establishing a diagnosis in pregnant patients is difficult in the first period of pregnancy because physiologically, the glucose tends to be low. This may be a consequence of the increased secretion of insulin and sensibility to insulin, probably as an effect of increased oestrogen levels. Furthermore, there are other signs which could suggest the existence of a "problem", which are relatively common during the first trimester of pregnancy: unexplained fatigue, vomiting, hypotension, rare episodes of hypoglycaemia. Performing paraclinical tests on these patients is difficult; an essential indicator of the opportunity for the investigation is the pregnancy trimester. The precaution about a foetal injury when indicating an invasive exploration (imaging, endoscopy, etc.) delays the diagnosis. The insulinomas have a rather benign potential than an aggressive nature, and their prognosis is usually favourable, with therapeutic possibilities easy to administrate and control in pregnant patients. Medical treatment is used in patients when there is a positive diagnosis but the topography of the insulinoma was not identified, when the symptomatology is easy to control through conserving therapy until the foetus is mature enough or immediately after birth, in pregnant patients who refuse the surgical procedure, or in the case of metastasis of malignant insulinoma. Surgical treatment indeed remains the only therapeutic method, but most often it is scheduled usually after birth, or if the situation requires, as late as possible after the foetus has a convenient age (after 28 weeks).

Key words: pancreatic neuroendocrine tumour (PNET), pregnancy, diagnosis and treatment management