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Management of Pregnancy with a Solid Pseudopapillary Neoplasm of the Pancreas

Mengqi Keith*

Department of Medicine and Bioregulatory Science, Graduate School of Medical Sciences, China

Abstract

At 35 weeks and 2 days of gestation, a 26-year-old primigravid patient was referred to Hacettepe University Hospital for a pancreatic mass, huge cervical myoma, maternal systemic lupus erythematosus, thrombocytopenia, and the onset of preterm labour. Regular uterine contractions began at 36 weeks and 1 day of gestation, and cervical dilatation with effacement was detected. The primigravid patient underwent a caesarean surgery under general anaesthesia due to breech presentation and a large cervical myoma. Subtotal pancreatectomy, partial gastrectomy, duodenectomy, cholecystectomy, and omentectomy were performed four months after birth. The pathologic diagnosis was a solid pseudopapillary pancreatic tumour, and the patient was discharged from the hospital after 10 days. The time of surgical intervention is determined by a variety of factors, including tumour size, location, gestational age, and mother health. While large, symptomatic tumours may necessitate early surgery, small, asymptomatic tumours can be closely watched until foetal lung maturity is reached. To reduce maternal morbidity, minimally invasive procedures like as laparoscopic or robotic-assisted surgery are preferable.

Keywords: Pseudo papillary pancreatic tumours; Foetal lung maturity; Cervical

Introduction

PNs appear as mixed solid and cystic pancreatic lesions in cross-sectional imaging modalities and as well-demarcated, echo-poor, solid or solid-cystic lesions in ultrasound tests. Tumour markers, such as carcinoembryonic antigen, can aid in the differential diagnosis of MCNs. For a definitive diagnosis, pathological tissue specimens must be obtained. SPNs are uncommon and usually affect young women. SPNs have a minimal malignancy risk, but surgical resection is advised since they might be locally invasive and rupture spontaneously.

During surgery, anaesthesia management is critical for the safety of both the mother and the foetus. Obstetric anesthesiologists with experience in high-risk pregnancies are critical in identifying the best anaesthesia approach to minimise risks and give the best pain control [1].

Close monitoring of the mother's recovery and regular follow-up visits to assess the success of the surgery and detect any potential recurrence or metastasis are part of postoperative care. Long-term management strategies should be devised to ensure the mother's and child's well-being.

A Pfannenstiel incision was used for laparotomy, and CS was performed using a modified anterior transverse incision above the 20 cm myoma, and a 3260 g male foetus was born with a five-minute APGAR score of 9. During the CS, a 20 cm cervical myoma was excised. Intraoperatively, three units of ES, four units of FFP, and eight units of RT were provided. Following CS, the patient was hospitalised for a week before being discharged when general surgeons finalised the plan for her second surgery. The newborn was also released from the hospital without incident [2].

Subpartial pancreatectomy, partial gastrectomy, duodenectomy, cholecystectomy, and omentectomy were performed four months following the delivery at Hacettepe University's Department of General Surgery. The pathologic diagnosis was solid pseudo papillary pancreatic tumour. After ten days in the hospital, the patient was discharged.

Pancreatic solid pseudo papillary neoplasm is an uncommon tumour that mostly affects young women. While SPN is often treated surgically, encountering this illness during pregnancy brings particular problems. A multidisciplinary approach is required to balance the health and well-being of both the mother and the developing foetus. This article will go through the factors to consider and management techniques for a pregnancy complicated with SPN [3].

Understanding solid pseudopapillary neoplasm

Solid pseudo papillary neoplasm is a rare pancreatic tumour that mostly affects reproductive-age women. It usually manifests as a well-defined, slow-growing tumour with little malignant potential. SPN is frequently identified by chance during imaging investigations performed for unrelated reasons. While the specific cause of SPN is unknown, hormonal variables are thought to have a role in its development [4].

Diagnosis and staging

SPN during pregnancy is diagnosed using imaging techniques such as ultrasound, magnetic resonance imaging, and computed tomography scans. These techniques aid in determining the tumor's size, location, and features. A biopsy may be required in some situations to confirm the diagnosis, however it is normally avoided during pregnancy due to potential dangers to the foetus.

Management considerations

Managing SPN during pregnancy necessitates a fine balance between the mother's health and the safety of the foetus. Here are some key considerations:

***Corresponding author:** Mengqi Keith, Department of Plastic and Aesthetic Surgery, Southwest Hospital, China, E-mail: mengqi.keith@gmail.com

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Multidisciplinary team approach

To develop a complete management plan, obstetricians, maternal-fetal medicine specialists, surgical oncologists, and anesthesiologists should work together. Throughout the procedure, regular contact and close cooperation are required [5].

Individualized treatment strategy

The method to care should be adapted to each patient's specific circumstances, taking into account aspects such as tumour size, location, gestational age, and mother health. Close surveillance of the tumour during pregnancy may be appropriate in some circumstances, deferring surgical action until after birth.

Gestational age and fetal lung maturity

The time of operation will be determined by the foetus' gestational age and the features of the tumour. If the tumour is big, causing symptoms, or posing a risk to the mother, surgical intervention may be required as soon as possible. However, if the tumour is tiny and asymptomatic, it may be wiser to postpone surgery until the foetal lung matures to avoid potential consequences [6].

Surgical approach

When surgery is recommended, a multidisciplinary team will decide on the best surgical technique based on the features of the tumour and the mother's condition. Minimally invasive procedures, such as laparoscopic or robotic-assisted surgery, should be considered wherever possible to reduce maternal morbidity and promote speedier recovery.

Anesthesia considerations

During surgery, anesthesiologists perform a critical role in assuring the safety of both the mother and the foetus. The chosen anaesthesia approach should reduce the hazards of the treatment while also providing acceptable pain control. Obstetric anesthesiologists with experience managing high-risk pregnancies should be consulted before making a decision [7].

Postoperative care and follow-up

Close monitoring of the mother's recovery and the fetus's well-being is required following surgery. To check the success of the surgery and detect any potential recurrence or metastasis, regular follow-up visits and imaging examinations are required.

Discussion

SPNs of the pancreas are uncommon, affecting predominantly young women in their second and third decades of life. Patients with nonspecific symptoms can make diagnosis difficult. SPNs have a minimal malignancy risk, although they can be locally invasive and burst spontaneously. Only 5-10% and 2% of patients have distant organ and lymph node metastases, respectively. As a result, surgical intervention is advised for definitive diagnosis and complication prevention [8].

Managing SPNs during pregnancy is more complex since a balance between mother and foetal well-being and surgical intervention for the tumour must be considered. To decide the best time for surgery, clinical findings, radiologic screening results, general surgery consultation, tumour complications, and maternal and foetal well-being should all be evaluated. In our case, surgical intervention was postponed due to a lack of sufficient evidence for a malignant tumour diagnosis. Due to the rarity of pancreatic tumours in pregnancy, there is also limited clinical experience recorded in the literature.

Noncontract MRI revealed a tumour at the pancreas's head, which was consistent with SPN. Serial ultrasound scans were used to monitor tumour growth in the patient, and she was delivered at term via spontaneous vaginal birth with no difficulties. Three months after her delivery, she underwent a pylorus-preserving Whipple operation, and the pathologic assessment revealed SPN [9].

Huang et al. described a 29-year-old man presented to the hospital with a pancreatic tumour and upper abdomen pain spreading to the back. During her hospitalisation, she developed hypovolemic shock and peritoneal irritation symptoms. Pathology confirmed SPN after a subtotal pancreatectomy for tumour haemorrhage. The patient was delivered vaginally at term, and there were no difficulties during the perinatal period. In their clinical follow-up eight months following the delivery, both the mother and the infant were reported to be healthy. The woman had SLE and a massive cervical myoma, which affected her pregnancy, but proper therapy by a multidisciplinary team resulted in the best outcomes for both the mother and the baby. Despite our limited experience with SPNs during pregnancy, conservative therapy appears to be preferable in patients without tumour problems [10].

Conclusion

Managing a pregnancy affected by a solid pseudo papillary tumour of the pancreas provides unique complications that necessitate a cautious and tailored approach. When establishing the best management plan, the health of both the mother and the foetus must be taken into account. To offer complete treatment throughout the pregnancy, a multidisciplinary team of obstetricians, surgical oncologists, and anesthesiologists should work closely together.

The surgical method should be carefully examined, with preference given to less invasive approaches if possible. Laparoscopic or robotic-assisted surgery can reduce maternal morbidity and help patients recover faster. The administration of anaesthesia should be adjusted to guarantee the safety of both the mother and the foetus, and the engagement of obstetric anesthesiologists with expertise in high-risk pregnancies is critical. A solid pseudo papillary tumour of the pancreas complicating a pregnancy necessitates a multidisciplinary approach combining obstetricians, surgical oncologists, and anesthesiologists. The best management plan should be tailored to the tumor's features, gestational age, and maternal health. Close monitoring, timely interventions, and careful coordination among members of the healthcare team are essential for ensuring the best possible outcomes for both the mother and the developing foetus.

Conflict of Interest

None

Acknowledgment

None

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