Endometriosis in Cesarian Scars
A literature review

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Introduction:
Cesarean section is one of the most common surgical procedures in the world. With its worldwide incidence potentially rising, it is vital to examine all possible implications. The risk of formation of endometriosis in the scar of C-sections is under-studied and often overlooked. This study aims to provide an overview of the current literature on the subject.

Methods:
A search protocol on PubMed was created to find the most relevant articles. The search was made for endometriosis occurring in cesarean scars, including any language understood by the main author. The search protocol provided 88 articles, all in English. Case reports and articles containing fewer patients than twenty, as well as articles focusing on pathology or radiology, were excluded for the sake of quality and efficiency. This left 46 articles, including cohort studies and case-controls. The results of those articles were then scrutinized for information on predominance, risk factors, diagnostic methods, differential diagnosis and possible methods of prevention.

Results:
Careful review of of the manuscripts included revealed that the most common location of abdominal wall endometriosis (AWE) was in scars of cesareans, with the percentage being between 57-81% in the studies found. The percentage varies greatly from study to study, due to small sample sizes and frequency. Larger studies, including a database study of 709.090 women, found an overall incidence between 0,08-0,1% of all cesareans. Patients with prior history of endometriosis were not more likely to develop scar endometriosis. Clinical presentation is the most important diagnostic factor, the key symptom being a tender area with a cyclical increase in size or tenderness. Differential diagnoses include incisional hernias, suture granulomas and desmoid tumors as well as malignancy. Image diagnostics may be needed in adipose patients or where mesh-reconstruction might become needed. One study found the incidence of endometriosis to be higher in cesareans (0,2%) than in episiotomies (0,06%), with a relative risk of 3,3. Evidence also suggests a notably increased risk of endometriosis in elective cesareans vs. acute cesareans with a relative risk of 2.16 (95% CI = 1.21–3.83). Possible prevention may include avoiding manual emptying of uterine cavity after placental expulsion, or by using a retractor that shields the subcutis, fascia and peritoneum.

Discussion:
Due to its rarity, further research is needed on this subject. For a successful investigation into its etiology and pathogenesis, a national multicenter study would be preferable, if not required. By doing a nationwide study, it might be possible to conduct a large cohort or case-control study in order to identify possible risk factors.

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