UNDERSTANDING PREGNANCY-RELATED AORTIC DISSECTION Still a long way to go?

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Abstract

Liu et al. reviewed case reports of type A acute aortic dissection occurring in the last trimester of pregnancy and described the fetal and maternal outcomes after cesarean section and aortic intervention.

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Acute aortic dissection (AAD) is a rare event during gestation but nevertheless pregnancy has been recognized as a predisposing factor for AAD. Our interest in this subject is outlined by recent publications[1-3]. From our review of the Literature, it appears evident that pregnancy-related AAD is an infrequent but at times fatal disease, especially in women with Marfan or Loeys–Dietz syndromes, while a bicuspid aortic valve has not emerged as a clear risk factor[2]. Since AAD can occur throughout all the phases of gestation and even during puerperium, a continuous follow-up with special attention to aortic size monitoring appears indicated in women at particular risk for developing this dramatic complication.

We have been, therefore, very interested in the paper by Liu et al. in the *Journal of Cardiac Surgery* , for providing further data on the complex problem of AAD and pregnancy[4]. The authors have focused their attention specifically on the repair of AAD combined with cesarean section, reviewing the reported cases in the last decade. This issue was non covered in our previous review and meta-analysis on AAD during pregnancy, since this was aimed to assess the incidence, clinical presentation and pathological substrates of this disease in this peculiar physiological setting[1]. For such reason the paper by Liu et al. brings new valuable information on a specific and extremely important aspect of this issue. They reviewed all published

case reports of type A AAD occurring in the last trimester of pregnancy and described the fetal and maternal outcomes after cesarean section and aortic intervention. In particular, their findings, that simultaneous repair of AAD and cesarean section provides excellent results in terms of maternal and fetal outcomes, indicate feasibility and effectiveness of combining these procedures[4].

Surgery for AAD is generally a complex procedure which becomes particularly challenging when required during the first two trimesters of pregnancy, when adequate conduction of anesthesia and cardiopulmonary bypass, coupled with a fast and effective repair, must provide adequate fetal oxygenation by minimizing hemodilution and avoiding hypothermia[5].

The paper of Liu et al.[4], together with the currently available evidence, helps to increase the awareness of the specific risk factors for AAD associated to pregnancy, particularly Marfan and Loeys-Dietz syndromes and a preexisting aortic dilatation; this indicates that ultrastructural changes in the aortic wall may occur, probably related to hemodynamic and hormonal derangements specific of pregnancy and may play a key role in understanding how this catastrophic occurrence may be prevented.

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