

Thrombophilia and assisted reproduction technology—any detrimental impact or unnecessary overuse?

Baris Ata¹ · Bulent Urman¹

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Abstract

Purpose The aim of this study is to provide an overview of the studies investigating a possible association between thrombophilia and assisted reproductive technology (ART) outcome.

Methods This is a literature review.

Results Congenital thrombophilias (CoT) are reported to be associated with pregnancy loss. However, the association between CoT and early pregnancy loss is weak and does not necessarily support causation. CoT are more likely to be associated with late fetal loss. Even though data pooled from case-control and cohort studies suggest an increased risk of ART failure in women with CoTs, there seems no association when the analysis is confined to better quality cohort studies. The evidence supporting anticoagulation to improve ART outcome in CoT carriers is weak. Likewise, studies on antiphospholipid antibodies (APAs) and ART outcome suffer from multiple methodological limitations and a detrimental impact of APA positivity is controversial. Empirical administration of heparin or low molecular weight heparin to women with recurrent ART failures is supported by weak evidence. Importantly, thrombophilias are likely to increase thrombotic complications after ovarian stimulation for ART.

Conclusions Current evidence does not support routinely testing for or treatment of thrombophilia in the setting of ART nor

in couples with implantation failure. A careful personal and family history should be obtained and a risk assessment for thrombotic complications should be made in every woman undergoing ovarian stimulation. If positive, testing for thrombophilia is warranted.

Keywords Assisted reproduction · Thrombophilia · Heparin · Pregnancy loss · Antiphospholipid syndrome

Introduction

The success of assisted reproduction technology (ART), although gradually increased over the years, is far from optimal. Many couples have benefited from this treatment; however, many have also been left frustrated following multiple failed attempts. Couples who fail to conceive after multiple ART cycles often seek treatment options that are new and that have not been offered before [1]. Although some of these options are supported by robust evidence, most suffer from lack of well-designed trials comparing them with other treatment options or no treatment at all.

Investigation and treatment of congenital and acquired thrombophilias have become common practice in management of recurrent implantation failures [2]. The term “thrombophilia” defines any condition associated with an increased risk of throm-