

REVIEW

Pharmacological stimulation of sperm motility

Francesco Lanzafame, Michael G.Chapman,
Antonino Guglielmino, Ceinwen M.Gearon¹ and
Robert G.Forman

Department of Obstetrics and Gynaecology, Guy's Hospital,
Floor 2, New Guy's House, London SE1 9RT, UK

¹ To whom correspondence should be addressed

The treatment of male factor infertility is a rapidly developing field. The introduction of microsurgical fertilization techniques allows assisted conception units to treat couples who previously would not have benefited from in-vitro fertilization techniques. However, these techniques are only used for the minority of subfertile men in andrological practice. Many subfertile men are still treated pharmacologically or by sperm selection methods to enhance sperm fertilizing ability. Numerous pharmacological compounds have been described that enhance sperm motility and thus, potentially, sperm fertilizing capacity. This paper attempts to review these compounds and assess their role in treatment of the subfertile male.

Key words: sperm stimulant/sperm motility

Introduction

Recently in-vitro fertilization (IVF) and newer developments such as microsurgical fertilization (Cohen *et al.*, 1988, 1991) and micro-epididymal sperm aspiration (Ord *et al.*, 1992) have led to the situation whereby men, with no previous prospects of fertility, can now father their own children. This has provided a major stimulus to male fertility treatment. Nevertheless these techniques are not used for the majority of subfertile men in andrological practice. Over the years attempts have been made to identify pharmacological agents which could improve the motility or fertilizing ability of human spermatozoa in idiopathic asthenozoospermia. Some of these agents were tested because of their known physiological role; others because they had empirically been shown to be beneficial. Some of the compounds have only been used *in vitro*. Others have been recommended for oral administration to influence sperm motility. The purpose of this paper is to critically review the literature related to the sperm stimulants, i.e. compounds purported to improve sperm motility or fertilizing ability. We examine the mechanism of action and assess the evidence for a beneficial therapeutic role. The paper does not discuss drugs such as tamoxifen, mesterolone or gonadotrophins whose primary suggested use is to improve sperm count in idiopathic oligozoospermia.