# 5-$HT_{1A}$ receptors in SSRI-induced delayed ejaculation

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Chronic treatment with some SSRIs causes delayed ejaculation in humans. The 5-$HT_{1A}$ receptor might be involved, since (1) chronic SSRI-treatment desensitizes this receptor and (2) 5-$HT_{1A}$ receptor agonists strongly accelerate ejaculation. The involvement of 5-$HT_{1A}$ receptors in the action of SSRIs on sexual behavior was was investigated in sexually experienced male Wistar rats:

I During 15 days, rats were treated with the SSRI citalopram (10 mg/kg/day p.o.), the 5-$HT_{1A}$ receptor antagonist WAY-100635 (0.1 mg/kg/day s.c.), or both. Neither citalopram nor WAY-100635 changed sexual behavior, but in combination ejaculation was strongly inhibited.

II During 22 days, rats were treated with paroxetine (20 mg/kg/day p.o.) or vehicle. On day 22 the rats also received the 5-$HT_{1A}$ receptor agonist 8-OH-DPAT (0.4 mg/kg s.c.) or saline. 8-OH-DPAT facilitated ejaculation in vehicle- but not in paroxetine-pretreated rats.

III Rats were injected with 8-OH-DPAT (0, 0.2 or 0.4 mg/kg s.c.). before and after a 22-day treatment with paroxetine (10 mg/kg/day p.o.) or fluvoxamine (30 mg/kg/day p.o.). 8-OH-DPAT reduced intromission frequencies at baseline and after fluvoxamine-treatment, but not after paroxetine-treatment.

None of the SSRI treatments significantly prolonged ejaculation latencies. However, co-administration of 5-$HT_{1A}$ receptor (ant)agonists revealed significant changes. We conclude that 5-$HT_{1A}$ receptors play a minor role under basal conditions, but are crucial for ejaculation when 5-HT levels are high. In addition, paroxetine but not fluvoxamine desensitizes 5-$HT_{1A}$ receptors involved in ejaculation, consistent with the absence of delayed ejaculation during fluvoxamine-treatment in humans.

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