

·Clinical Experience·

## Yohimbine in the treatment of orgasmic dysfunction

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### Abstract

**Aim:** To study the effect of yohimbine in the treatment of men with orgasmic dysfunction. **Methods:** A 20-mg dose of yohimbine was first given to 29 men with orgasmic dysfunction of different aetiology in the clinic. Patients were then allowed to increase the dose at home (titration) under more favourable circumstances. The outcome and side effects were subsequently assessed. **Results:** The patients were classified into three groups of orgasmic dysfunction: primary complete (13), primary incomplete (8) and secondary (8). Nocturnal emissions were present in 75%, 40% and 50% of patients in the above groups, respectively (overall average 62%). The men presented because of fertility problems (52%) or because they wanted to experience the pleasure of orgasm (48%). Of the 29 patients who completed the treatment, 16 managed to reach orgasm and were able to ejaculate either during masturbation or sexual intercourse. A further three achieved orgasm, but only with the additional stimulation of a vibrator. A history of preceding nocturnal emissions was present in 69% of the men in whom orgasm was induced but only 50% who failed treatment. Of the patients, two have subsequently fathered children (one set of twins) and another 3 men were also cured. Side effects were not sufficient to cause the men to cease treatment. **Conclusion:** Yohimbine is a useful treatment option in orgasmic dysfunction. (*Asian J Androl 2007 May; 9: 403–407*)

**Keywords:** Yohimbine; anorgasmia; orgasm; orgasmic dysfunction; impotence; ejaculation

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### 1 Introduction

The male orgasm has been defined as a pleasurable feeling (a cerebral event) that is usually associated with ejaculation and occurs when sexual excitement reaches a threshold level. Anorgasmia is therefore the inability to achieve an orgasm during conscious sexual activity, al-

though nocturnal emission (NE) might occur [1]. The classification of orgasmic dysfunction has varied in different studies, but here we define three categories: primary (1<sup>0</sup>) complete (or lifelong, as the man has never had a normal orgasm), primary (1<sup>0</sup>) incomplete otherwise known as retarded or delayed ejaculation (lifelong undue delay in reaching a climax during sexual intercourse) or secondary (2<sup>0</sup>) (men who had normal orgasms but subsequently experience a failure to achieve orgasm) [1, 2]. Orgasm is distinct from ejaculation (*jaceo* = to throw [Latin]), which consists of two sequential reflex mechanisms: emission and expulsion. Emission results in the discharge of seminal fluid into the posterior ure-

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thra and is mainly via the sympathetic nervous system [3, 4]. Expulsion is caused by the action of sympathetic (closure of the bladder neck) and somatic efferents (S2-4) in the pudendal nerves [5, 6]. Anorgasmia might be a result of psychological or neurological factors and in some instances the result of psychotropic drugs like paroxetine [7]. It is rarely troublesome except when the man is anxious to father children. In these circumstances, a variety of treatment techniques exist but these tend to be invasive [8–10]. Some men seek treatment to normalize their sexual experience.

In the past, anorgasmia has also been treated by the use of psychotherapy or the use of a vibrator with or without a drug (e.g. physostigmine, apomorphine and bromocriptine) [11, 12]. This paper reports our experience using yohimbine, an  $\alpha_2$ -adrenergic receptor-blocking drug, to treat anorgasmia.

## 2 Materials and methods

Twenty-nine men with anorgasmia were referred to a tertiary referral clinic between the years of 1991 and 2000. Their age range was 20–70 years (mean 38 years, standard deviation 11.2 years). A full history and examination were carried out and their blood pressure noted. Patients with serious coexisting illness, known allergy or hypersensitivity to yohimbine, poorly controlled hypertension, tetraplegia or paraplegia above T6 were excluded. The category of the anorgasmia was clarified.

Yohimbine was given in the clinic under supervision to monitor any increase in blood pressure. Yohimbine was given at the dose of 20 mg p.o. by tablet in most men but three men were treated with yohimbine microenema by one of the authors. The latter route was used when the patient had recently eaten, because absorption of yohimbine is slower and more variable if it is taken when the stomach is full. The patients were then allowed to masturbate and whether he succeeded in ejaculating was recorded.

Patients who were unable to ejaculate were allowed to go home with a supply of 5 mg yohimbine tablets to see the effect on ejaculation during sexual intercourse at home, in a more favorable environment. They were instructed to increase the dose from 20 mg, in 5 mg increments if the lesser dose was unsuccessful, to a maximum of 45–50 mg (dose escalation). If a 50-mg dose was unsuccessful in producing an ejaculation, the trial was considered unsuccessful and further doses of yo-

himbine were discontinued. At follow-up, the absence, presence and nature of any side effects were noted.

Following yohimbine administration, the outcome could be successful, improved or unsuccessful. Improvement was said to occur when orgasm was achieved with the additional assistance of a vibrator (this having been previously unsuccessful in the absence of yohimbine). The vibrator used was the Ling 201 Vibrator (Ling Dynamic Systems, Royston, England) at either 70 or 100 Hz applied to the ventral surface of the glans penis [13].

There were 13 men aged 20–51 years (mean  $32.2 \pm 8.5$ ) in the 1<sup>o</sup> complete anorgasmic group and they did not have underlying discernible causes of anorgasmia. The 1<sup>o</sup> incomplete anorgasmic group comprised eight men aged 28–44 years (mean  $35.5 \pm 5.6$ ) and their anorgasmia was also idiopathic. Eight men aged 35–70 years (mean  $48.5 \pm 12.4$ ) were in the 2<sup>o</sup> anorgasmic group with varied aspects of their past medical history and possible aetiological factors present in five of the 2<sup>o</sup> anorgasmic group. Of the patients, two had multiple sclerosis, one had a previous back injury and sciatica, one had prostate cancer whereas yet another had a previously undiagnosed meningocoele.

Data concerning the history of NE was available in 21 men and, of these, NE were present in 13 men (62%). These comprise 75% of the 1<sup>o</sup> complete anorgasmic group, 40% of the 1<sup>o</sup> incomplete and 50% of the 2<sup>o</sup> anorgasmic group.

The primary reason for presentation was for infertility in just over half of the patients (15), whereas the other patients (14) primarily desired a normal sexual experience. There was considerable variation between the groups as to the reason for presentation; 77% of the 1<sup>o</sup> complete group presented for infertility concerns, whereas this was 38% for the men with 1<sup>o</sup> retarded ejaculation and 33% for the secondary anorgasmic group.

## 3 Results

Ejaculation by masturbation or in coitus was achieved by 16 men (55.2%). A further 3 (10.4%) ejaculated by using yohimbine and a vibrator together. The outcome in the varied categories is shown in Table 1. During the trial of medication in all the successful patients, the mean dose at which ejaculation occurred first was 38 mg yohimbine (range 15–50, standard deviation 9.5), although the mean dose at which patients were eventually established was 28 mg (range 2.5–45, standard deviation 16.2).

Side effects included dartos contraction, a rise in the pulse and blood pressure, tremor, pleasurable tingling, palpitations, malaise, nausea and headache but were not a significant deterrent in any patient.

Of the 19 men, 11 (58%) ejaculated with the first dose whereas the remaining eight (42%) required dose escalation at home. Of the patients, two have since been successful in fathering children. Another three were able to ejaculate subsequently (after a few successful ejaculations with yohimbine) without the drug. Of the 13 men with either successful (10) or improved (3) ejaculation, NE were present in 9 (69%). Conversely, only 50% of the men with failure to ejaculate with yohimbine had NE. The outcome relationship to the presence of NE is shown in Table 2.

#### 4 Discussion

There is no good classification of orgasmic dysfunction and the present paper is based upon the World Health Organization (WHO) consensus meeting although it would seem more logical to categorize men with primary (lifelong anorgasmia) as having incomplete or situational

anorgasmia and place them in the same category as men with retarded ejaculation [1]. The characteristic of these men is that there might have variable ability to ejaculate and this might be dependent upon the situation (e.g. masturbation, sexual intercourse, dreams or other high excitement).

The reason why anorgasmic men concerned with infertility should present younger than those who wish to normalize their sexual experience (34 vs. 42 years) is uncertain. It has been assumed that the mechanism for primary anorgasmia was psychological when there was an absence of any neurological abnormality but it might be a result of an abnormally high threshold for excitation rather than a result of inhibitory impulses from the cerebral cortex structures.

Yohimbine is an indol alkaloid derived from the bark of *Corynanthe johimbe*, a tree indigenous to Central Africa that has long been used in the treatment of erectile problems [14, 15]. It has, at least in rodents, also been shown to be a powerful enhancer of copulatory behavior [16].

Yohimbine is a selective competitive  $\alpha_2$ -adrenergic receptor blocker with some loss of selectivity in higher

Table 1. Outcome of yohimbine administration in the orgasmic dysfunction categories.

Category	Orgasm induced	Orgasm induced with vibrator	Failed	Total
Primary (1 <sup>o</sup> ) complete	6	3	4	13
Primary (1 <sup>o</sup> ) incomplete	3	—	5	8
Secondary (2 <sup>o</sup> )	7	—	1	8
Total	16	3	10	29

Table 2. Outcome of yohimbine administration in patients for whom the occurrence or absence of nocturnal emissions (NE) was known. †Includes three patients who additionally used vibrator.

	NE present		NE absent	
	Orgasm induced	Failed	Orgasm induced	Failed
Primary (1 <sup>o</sup> ) complete	6†	3	2	1
Primary (1 <sup>o</sup> ) in-complete	2	—	—	3
Secondary (2 <sup>o</sup> )	1	1	2	—
Total	9	4	4	4

Table 3. Outcome of yohimbine administration in men in whom the history of the occurrence of nocturnal emissions (NE) was specified.

History of NE	Orgasm induced	Orgasm induced with vibrator	Failed	Total
Present	6	3	4	13
Absent	4	—	4	8
Total	10	3	8	21

doses, the exact mechanism of action being incompletely known. Its effect is thought to be exerted both centrally and peripherally [17]. The central action, following its passage across the blood-brain barrier, is performed by its central  $\alpha$ -adrenoceptor blockade. This might possibly be via the lowering of the threshold for excitability in the forebrain centers. The peripheral action is thought to be by modulation of the autonomic nervous system tone via presynaptic autoinhibitory  $\alpha_2$ -adrenergic receptors [18].

Yohimbine hydrochloride, as it is formulated, is not well absorbed from the stomach, although it is well absorbed from the duodenum or the rectum. It is also rapidly cleared, so that the time during which a dose is effective is only about 30–50 min. Oral administration for the purpose of restoring ejaculatory function is poor unless the stomach is empty. Therefore, the patient must either take the tablets 3 h after his last meal or the drug should be given as a microenema.

Yohimbine has been widely used in the treatment of erectile dysfunction in a dosage of 5–15 mg daily [18]. A larger dose is necessary for ejaculatory dysfunction, approximately 0.4 mg/kg (30 mg for the average man), and an initial dose of 20 mg was used in the clinic.

Coitus is best attempted when contraction of the dartos indicates that the drug is acting, typically 30–40 min after ingestion. If the patient succeeds with a low dose, there is no reason to increase the dose unless the success is intermittent.

Of the 13 men with 1<sup>o</sup> complete anorgasmia, treatment was successful in 6 (46%) whereas 3 (23%) were improved. The presence or absence of NE did not seem to significantly influence the outcome in this category as 3 out of 9 men specified as having NE did not succeed in ejaculating with yohimbine, whereas two out of three without NE succeeded. Erectile dysfunction was uncommon but if it did occur, it was a secondary phenomenon as they had normal erections before. Also in this category, there were 3 men that were cured and no longer required yohimbine to be orgasmic.

Of the 8 men with 1<sup>o</sup> incomplete anorgasmia, treatment was successful in three (38%), two of whom had NE and in the third, this parameter was unknown. In marked contrast, there was no response to yohimbine in the three men known not to have NE and two in whom this parameter was unknown. This might suggest a positive correlation between the presence of NE and likelihood of success. Erectile dysfunction was not a feature

of this group and was only present in 1 man.

The 2<sup>o</sup> anorgasmic group had the best response with treatment being successful in seven of the eight men (88%). Three patients who became orgasmic with yohimbine had possible neurological problems but this did not seem to be associated with a poor result. Erectile dysfunction was more common, occurring in five of the seven men in which the information was recorded.

When the outcome of treatment is considered, looking at the primary reason for presentation, a better result was achieved by the men presenting for treatment of their sexual disability (11 of 14 men: 79%) than for infertility (8 of 15 men: 53%). There was no significant difference in outcome with regard to age. It is of interest that the mean dose to initiate ejaculation was higher (38 mg) than that necessary for its maintenance (28 mg) as patients were encouraged to use the lowest effective dose. It should also be noted that 3 men were 'cured', not requiring further treatment. The psychological boost from the success might have therefore played a factor.

The side effects of yohimbine in the high dosage that is necessary can include an increase in pulse rate and blood pressure, palpitations, dartos contraction, tremor of the hands, facial flushing, anxiety, malaise and headache [19–21]. At least 1 patient experienced a pleasant tingling sensation, which was his indicator that he was ready. Contraction of the dartos is the most reliable sign of adequate absorption provided that the patient is warm, as otherwise the dartos might be contracted. Yohimbine has been widely used but at this higher dosage, the only potentially serious adverse effect is a rise in blood pressure. The first treatment should be done in clinic, monitoring the blood pressure and it is prudent to refuse it to men who are hypertensive or others to whom a rise in blood pressure might be harmful [17]. Tetraplegic or patients with paraplegia above T6 should also be excluded because of the risk of autonomic dysreflexia. It should be noted that no instance of hypertension was seen in any of the 29 patients treated.

In conclusion, the yohimbine treatment of anorgasmia was successful in 55% of men, with an additional 10% experiencing some improvement. It presents a relatively simple means of restoring orgasms and is relatively free from troublesome side effects.

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