يوهمبين

يوهمبين (yohimbine) | القاموس الطبي
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اعرف المزيد عن يوهمبين (**yohimbine**), اسبابه و اعراضه و طرق علاجه و غيرها من الامراض المتعلقة ب اعشاب طبية من الطبي. انضم الآن إلى شبكة الطبي.

ستريكنين + يوهمبين - ويب طب
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يوهمبين (**Yohimbine**) محصر لمستقبلات الفا يؤدي الى زيادة وفرة مواد كيميائية معينة في الدماغ. ستريكنين (Strychnine) مادة سامة من عائلة القلويدات يستخدم دمج هذه المواد ...

Yohimbe يوهمبي، والجهاز العصبي | سعلو
www.s3lo.com/**yohimbe** ▾ Translate this page

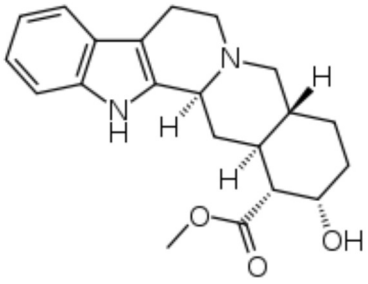
مخاطر نبتة **Yohimbe** يوهمبي و اثرها على الانتصاب و الدورة الدموية والجهاز العصبي. ... يوهمبين هو عبارة عن قلويد (وهو مركب كيميائي يحتوي طبيعياً على ذرات نيتروجين ...

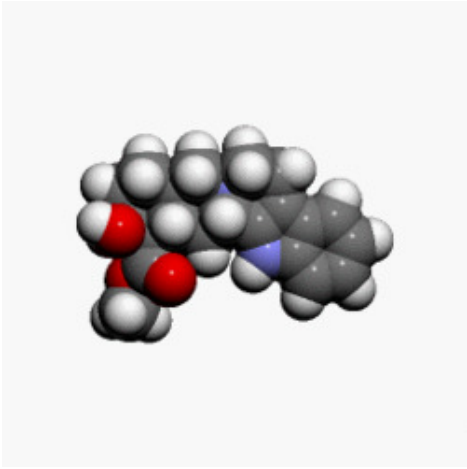
Yohimbine

From Wikipedia, the free encyclopedia

Yohimbine is an indole alkaloid derived from the bark of the Pausinystalia yohimbe tree in Central Africa. It is primarily used as a treatment for erectile dysfunction. Brand names include: Erex, Testomar, Yocon, Yohimar, Yohimbe. It is a stimulant with aphrodisiac and mild MAOI effects that primarily acts as an antagonist of α_2 receptors.[2] It is available as a prescription medication in the standardized form, yohimbine hydrochloride, for the treatment of xerostomia and selective serotonin reuptake inhibitor induced sexual dysfunction. Yohimbine produces a profile similar to ADHD.[3]

Yohimbine





Systematic (IUPAC) name

17α-hydroxy-yohimban-16α-carboxylic acid methyl ester

Clinical data	
Trade names	Actibine, Erex, Testomar, Yocon, Yohimar, Yohimbe
Legal status	AU: Prescription Only (S4) US: OTC supplement
Routes	Oral
Pharmacokinetic data	
Bioavailability	7-87% (mean 33%)
Half-life	0.25-2.5 hours[1]
Excretion	Urine (as metabolites)
Identifiers	
CAS number	146-48-5 ✓
ATC code	G04BE04 QV03AB93
PubChem	CID 8969
IUPHAR ligand	102
DrugBank	DB01392

Contents

Medical uses

SSRI side-effects

There is potential for yohimbine to be used as treatment for SSRI induced sexual dysfunction. One study has shown yohimbine's ability to increase physical functioning as well as desire in patients taking an SSRI.[4] Yohimbine has proved to be effective in treating dry mouth caused by anti-depressant use, however much of the evidence has been centered around those taking a tricyclic antidepressant.[5][6]

Sexual dysfunction

The NIH states that yohimbine hydrochloride is the standardized form

of yohimbine that is available as a prescription medicine in the United States, and that it has been shown in human studies to be effective in the treatment of male erectile dysfunction.[7] Yohimbine has been shown to be effective in the treatment of orgasmic dysfunction in men.[8] Yohimbine has also been used to treat hypoactive sexual desire disorder (under active libido) in women.[9]

Large doses of yohimbe have caused priapism.[10] Controlled studies suggest that it is not always an effective treatment for impotence, and evidence of increased sex drive (libido) is anecdotal.[11]

> It cannot be excluded that orally administered yohimbine can have a beneficial effect in some patients with ED. The conflicting results available may be attributed to differences in drug design, patient selection, and definitions of positive response. Generally, however, available results of treatment are not impressive.[12]

ChemSpider	8622 ✓
UNII	2Y49VWD90Q ✓
ChEBI	CHEBI:10093 ✓
ChEMBL	CHEMBL15245 ✓
	Chemical data
Formula	$C_{21}H_{26}N_2O_3$
Molecular mass	354.44 g/mol (base) 390.90 g/mol (hydrochloride)
SMILES	
InChI	
	✓ **(what is this?) (verify)**

Yohimbine blocks the pre- and post-synaptic α_2 receptors. Blockade of post-synaptic α_2 receptors causes minor corpus cavernosum smooth muscle relaxation. In fact, the majority of adrenoceptors in the corpus cavernosum are of the α_1 type. Blockade of pre-synaptic α_2 receptors facilitates the release of several neurotransmitters in the central and peripheral nervous system — thus in the corpus cavernosum — such as nitric oxide and norepinephrine. Whereas nitric oxide released in the corpus cavernosum is the major vasodilator contributing to the erectile process, norepinephrine is the major vasoconstrictor through stimulation of α_1 receptors on the corpus cavernosum smooth muscle. Under physiologic conditions, nitric oxide attenuates norepinephrine vasoconstriction. Continuous administration of yohimbine, as opposed to on-demand administration, might result in increased norepinephrine reuptake and thereby reduced vasoconstriction from reduced α_1 adrenergic receptors stimulation by its feedback down regulation mechanism -unlike on-demand administration that produces excessive norepinephrine release and bottlenecked reuptake. And α_1 blockers on-demand reduce vasoconstriction caused by excessive norepinephrine release.[13]

Weight loss

There is no good evidence Yohimbine is useful as an aid to weight loss.[14]

Other uses

Yohimbine has also been used for xerostomia, as a blood pressure boosting agent in autonomic failure, and as a probe for noradrenergic activity.

The addition of yohimbine to fluoxetine or venlafaxine has also been found to increase the antidepressant action of both of these agents.[15]

Yohimbine has been used to facilitate recall of traumatic memories in the treatment of post traumatic stress disorder (PTSD).[16] Use of yohimbine outside of therapeutic settings may not be appropriate for persons suffering from PTSD.[17] In pharmacology, yohimbine is used as a probe for α_2-adrenoceptor. In veterinary medicine, yohimbine is used to reverse anesthesia from the drug xylazine in small and large animals.

Side effects

Depending on dosage, yohimbine can either increase or decrease systemic blood pressure (through vasoconstriction or vasodilation, respectively); small amounts of yohimbine can increase blood pressure, while large amounts can dangerously lower blood pressure.[18]

The therapeutic index of yohimbine is quite low; the range between an effective dose and a dangerous dose is very narrow.[19] Perceptible effects begin under half a miligram. A typical dose for sexual dysfunction would be 15–30 mg, whereas 100 mg would be considered dangerous. Overdose may also precipitate panic-type reactions, heart attack, and possibly death. Some have experienced severe adverse effects under 5 mg.

Hallucinations or paralysis may occur with doses greater than 40 mg.[20] Higher doses of oral yohimbine may create numerous side effects, such as rapid heart rate, overstimulation, anomalous blood pressure, cold sweating, and insomnia. In rare cases panic attacks, hallucinations, headaches, dizziness, and skin flushing have occurred.[19]

Overdoses of yohimbine can cause priapism. There is little evidence for the use of pseudoephedrine in the treatment of priapism. The America Urology Association recommends phenylephrine intracavernous injection. (https://www.auanet.org/education/guidelines/priapism.cfm)[21] In one case report, yohimbine induced priapism was treated with the insertion of a Quackles shunt.[22]

Serious adverse effects of overdose may include seizures and renal failure. Yohimbine should not be consumed by anyone with liver, kidney, or heart disease, or a psychological disorder.[19]

Precautions and contraindications

Yohimbe bark is on the FDA list of dangerous supplements.[23] The levels of yohimbine that are present in yohimbe bark extract are variable and often very low.[7] Therefore, although yohimbe bark has been used traditionally to alleviate male erectile dysfunction, there is not enough scientific evidence to form a definitive conclusion in this area.

In Africa, yohimbe has traditionally been used as an aphrodisiac.[24] However, it is important to note that while the terms *yohimbine*, *yohimbine hydrochloride*, and *yohimbe bark extract* are related, they are not interchangeable.[7]

In addition to the main active chemical, yohimbine, *Pausinystalia yohimbe* contains approximately 55 other alkaloids, of which yohimbine accounts for 1% to 20% of total alkaloids. Among them, corynanthine is an α_1 receptor blocker. Hence the use of yohimbe extract in sufficient dosages may provide concomitant α_1 and α_2 receptors blockade and thus may better enhance erections than yohimbine alone.[13]

Pausinystalia yohimbe is currently threatened with extinction in its native habitat due to international demand. Its conservation is difficult because the bioactivity of the tree has led many Western governments to declare it a proscribed species.

Interactions

At least 14 days should elapse between discontinuation of MAOI therapy and initiation of treatment with yohimbine.[25]

Research on cats suggests that yohimbine increases the effects of catecholaminergic stimulants, namely amphetamine and modafinil.[26]

Pharmacology

Yohimbine has high affinity for the α_2-adrenergic receptor, moderate affinity for the α_1 receptor, 5-HT_{1A}, 5-HT_{1B}, 5-HT_{1D}, 5-HT_{1F}, 5-HT_{2B}, and D_2 receptors, and weak affinity for the 5-HT_{1E}, 5-HT_{2A}, 5-HT_{5A}, 5-HT_7, and D_3 receptors.[27][28] It behaves as an antagonist at α_1-adrenergic, α_2-adrenergic, 5-HT_{1B}, 5-HT_{1D}, 5-HT_{2A}, 5-HT_{2B}, and D_2,

and as a partial agonist at 5-HT_{1A}.[27][29][30][31] Yohimbine interacts with serotonin and dopamine receptors in high concentrations.[32]

Pharmacologic profile

Molecular Target	Binding Affinity (K_i in nM)[33]	Pharmacologic Action [27][29][30][31][34]	Species	Source
SERT	1,000	Inhibitor	Human	Frontal Cortex
5-HT_{1A}	346	Partial Agonist	Human	Cloned
5-HT_{1B}	19.9	Antagonist	Human	Cloned
5-HT_{1D}	44.3	Antagonist	Human	Cloned
5-HT_{1E}	1,264	Unknown	Human	Cloned
5-HT_{1F}	91.6	Unknown	Human	Cloned
5-HT_{2A}	1,822	Antagonist	Human	Cloned
5-HT_{2B}	143.7	Antagonist	Human	Cloned
5-HT_{7}	2,850	Unknown	Human	Cloned
α_{1A}	1,680	Antagonist	Human	Cloned
α_{1B}	1,280	Antagonist	Human	Cloned
α_{1C}	770	Antagonist	Human	Cloned
α_{1D}	557	Antagonist	Human	Cloned
α_{2A}	1.05	Antagonist	Human	Cloned
α_{2B}	1.19	Antagonist	Human	Cloned
α_{2C}	1.19	Antagonist	Human	Cloned
D_2	339	Antagonist	Human	Cloned
D_3	3,235	Antagonist	Human	Cloned

Research

Additionally, it inhibits the function of monoamine oxidase enzymes, although it is not clear if it is a RIMA, MAOA, or MAOB inhibitor.

MAOIs are normally contraindicated for use with tyramine-rich food (see the cheese effect). Some companies have combined yohimbine with tyramine in their energy products.[35] However, tyramine failed to potentiate the effect of yohimbine except for somewhat augmenting the increase in DHPG.[36]

Despite its MAOI properties, it does not spare the degradation of tryptamines, (e.g. DMT) which remain orally inactive upon coadministration, suggesting that yohimbine is potentially a selective inhibitor of MAOB.

Yohimbine was explored as a remedy for type 2 diabetes in animal and human models carrying polymorphisms of the α_{2A}-adrenergic receptor gene.[37]

See also

- Ajmalicine
- Corynanthine
- Rauwolscine
- Spegatrine
- Reserpine
- Deserpidine
- Rescinnamine

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Categories: Alpha blockers | Entheogens | Monoamine oxidase inhibitors | Anxiogenics | Indole alkaloids | Alkaloids found in Rauvolfia | Alkaloids found in Euphorbiaceae | Vasodilators | Vasoconstrictors

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