est aussi aggravée par le tabagisme et la prise de cocaine, n’a pas pu être réalisée chez cette patiente avant traitement [4]. En tout état de cause, il est possible qu’ici le mécanisme responsable soit mixte comme certainement dans beaucoup de situations demeurées inexpliquées. Le tabagisme occupe une part prédominante dans la physiopathologie de ces événements pour son rôle sur les plaquettes et au niveau de l’endothélium vasculaire ; et il est régulièrement présent dans les SCA du sujet jeune [3,4]. Enfin la sarcoidose pourrait se compliquer d’anomalies notamment de spasmes de la microcirculation coronaire et ainsi avoir contribué à la survenue d’un SCA [13].

Le pronostic de ces patients apparait relativement favorable par rapport aux porteurs de lésions d’athérome. Effectivement plusieurs publications font état de l’absence de récidive dans 85 à 96 % des cas [1,3,5,14]. Cependant, il s’agit de séries de faibles effectifs peut-être très hétérogènes en ce qui concerne la cause du SCA dont le risque au long cours dépend certainement de la persistance ou non du ou des facteurs déclenchant. À ce titre, la prise en charge thérapeutique si elle est bien codifiée en phase aigué pose d’autres problèmes pour la suite. Il est évident que le sevrage tabagique est impératif. La survenue d’un SCA est une indication pour poursuivre une double anti-agréation plaquettaire pendant un an. Mais au-delà, qu’en est il vis-à-vis de troubles de la coagulation pour lesquels l’intérêt d’un traitement au long cours est méconnu ?

**Conclusion**

Cette observation illustre une problématique peu fréquente en posant la question du mécanisme physiopathologique d’un infarctus sans lésion athéromateuse sous-jacente visible. L’imagerie moderne permet de mieux l’appréhender. La prise en charge thérapeutique en découle et vise à couvrir les différents facteurs favorisants quand ils sont individualisés, ce qui n’est malheureusement encore pas toujours le cas.

Déclaration d’intérêts : les auteurs déclarent ne pas avoir de conflits d’intérêts en relation avec cet article.

**Références**


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**Poppers dependence: The mask behind hypersexuality**

Dépendance aux Poppers : le masque de l’hypersexualité

People with excessive sexual thoughts or behaviours have been categorized as suffering from a compulsive, impulsive, addictive or hypersexual disorder [1]. Hypersexual Disorder, a non-paraphilic sexual desire disorder with an impulsivity...
dependence, and a past major depressive disorder actually
His medical and psychiatric history included past nicotine
major depressive disorder.
but had not actually been working for six months because of a
general practitioner. He was employed in a college as a teacher
our outpatient department for hypersexuality treatment by his
A single 45-year-old man having sex with men, was referred to
poppers dependence with online hypersexuality.
We present hereafter the case of a patient who developed
described.
during sexual activity but, to our knowledge, no dependence
and/or produce euphoria [6]. Poppers are often abused
relations (OSR) youth and adults, facilitate sexual intercourse
sex with men (MSM). Poppers, also used by other-sexual
peripheral vasodilators are frequently used by men who have
withering and feelings of dizziness. These
plants, also known as poppers, are alkyl nitrites (e.g., amyl,
butyl, isopropyl), which are highly volatile colourless or
yellow liquids at room temperature. Poppers are rapid-onset,
short-acting potent vasodilators that produce a rush charac-
terized by warm sensations and feelings of dizziness. These
peripheral vasodilators are frequently used by men who have
sex with men (MSM). Poppers, also used by other-sexual
relations (OSR) youth and adults, facilitate sexual intercourse
and/or produce euphoria [6]. Poppers are often abused
during sexual activity but, to our knowledge, no dependence
syndrome associated with hypersexuality, has ever been
described.
We present hereafter the case of a patient who developed
poppers dependence with online hypersexuality.
A single 45-year-old man having sex with men, was referred to
our outpatient department for hypersexuality treatment by his
general practitioner. He was employed in a college as a teacher
but had not actually been working for six months because of a
major depressive disorder.
His medical and psychiatric history included past nicotine
dependence, and a past major depressive disorder actually
-treated by venlafaxine 112.5 mg/day for five years. Our patient
reported his first poppers use at 24-year-old during a MSM
intercourse. One year later, he increased the poppers dosage
during MSM intercourses and especially when he watched OSR
pornographic movies. Two years later, daily compulsive mas-
turbation was exclusively associated with an important sexual
use of the internet and poppers consumption. For 15 years, he
had bought packs of poppers bottles (13 mL each) over the
internet or at various venues including sex shops and sex bars.
Our patient reported dependence symptoms such as tolerance,
craving, time spent using poppers and daily use. He never
reported withdrawal symptoms because he always had pop-
pers available in his house. Sexual craving was triggered or
exacerbated during times of increased stress and/or affective
arousal. His hypersexual ritual, more than three times per day,
followed this cycle: legal or illegal downloading of OSR movies,
movies self-editing during a couple of hours, poppers use,
movies watching and masturbation. His social life became
quickly very poor. He reported anxiety, insomnia, anorexia
and depressive symptoms such as sadness, anhedonia, and
fatigue. His physical examination was normal, and urinary drug
screening was negative.
The patient agreed to join our integrated outpatient treatment
program that consisted in poppers detoxification (use of non-
benzodiazepines anxiolytic), individual cognitive behavioural
therapy and selective serotonin reuptake inhibitors (SSRIs)
medication for hypersexuality and depressive disorder. We
stopped his venlafaxine medication because of its weak effects
on mood disorder and hypersexuality. We switched it to esci-
talampr 20 mg/day. Observance and retention were good and
no side effects have been reported. Our patient is abstinent
since four weeks and the treatment is effective on the main
previous reported symptoms.
Two types of sexual behaviour are most likely to become
excessive. These are masturbation, which probably is the most
common, and the sexual use of the internet. Men are more
likely to access sexually explicit material online and use the
internet as an almost limitless extension of their compulsive
masturbatory behaviour [7].
People, like our patient, with a hypersexual disorder may
have an affective deregulation. Mood and anxiety disorders
are frequent comorbidities. Furthermore, the SSRIs appear
to be useful in decreasing symptoms of hypersexual
and mood disorder [8]. Substance abuse is a frequent
comorbidity found in patients suffering from hypersexual
disorder [4].
We are not aware of published data of autoerotic activities
linked with compulsive use of online sexual imagery and
poppers use. The proportion of males who used nitrites is most
of the time higher than the percentage of females reporting
lifetime use [9]. The main positive effect of poppers creates a
euphoria that can decrease inhibitions, increase sexual drive,
and intensify the sensations of orgasm [6]. It could explain the
synergistic effects of the combination of poppers and compul-
sive use of online sexual imagery.
Acute and chronic toxicity of inhaled nitrites in humans [9] are summarized in the Table I. Poppers have been associated with risky sexual behaviour, prevalent HIV infection, and with increased risk of HIV seroconversion [10]. Our patient did not report specific acute adverse effects but chronic ones such as depression and impaired learning and memory, which may be linked to the poppers-induced neurotoxicity.

In 1990, a French decree forbade the sale or the free distribution of products containing butyl or pentyl nitrites or their isomers. Then, other nitrites (e.g. propyl, isopropyl, cyclohexyl) became available on the market. The French National Committee of Narcotics and Psychotropics (FNCNP) made, in 1999, a review on the dangerousness of poppers (310 cases report of acute poisoning). These data had led the FNCNP to submit a request by several associations or trading companies. This measure was excessive and disproportionate towards the risks presented by the marketing of these products for the health and safety of the users. Until this day, butyl and pentyl nitrites are still forbidden while other nitrites are not anymore forbidden.

According to the Trend network (tendances récentes et nouvelles drogues/recent trends and new drugs) in Paris, Marseille, Lille, the French-Belgian border and in Toulouse in the homosexual festive scene [11], the availability of poppers is persistent but there is a more complex accessibility since the application of the 2007 decree, its related price increase, and the new available nitrites. However, a significant decrease of poppers use in the festive scene has not been reported due to possible personal imports from orders on the internet or from purchases abroad, but also from hidden sales in sex shops, sex clubs, dancing clubs and saunas.

Significant medical and psychiatric morbidity is associated with poppers acute or chronic use. Poppers are more often the object of a limited or chronic individual abuse [12] but the evaluation of the risk of dependence must be completed. Clinicians have to take into account poppers or designer drugs use (GBL, synthetic cathinones such as mephedrone, methylone…) [13,14] when treating hypersexual disorder. These two disorders are frequently comorbid and one could exacerbate the toxicity of the other.

Disclosure of interest: the authors declare they have no conflicts of interest concerning this article.

**Table I**

<table>
<thead>
<tr>
<th>Acute toxicity</th>
<th>Chronic toxicity</th>
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<tbody>
<tr>
<td>Skin irritations around the nose and lips</td>
<td>Pneumonia, emphysema</td>
</tr>
<tr>
<td>Burns from inadvertent ignition of the vapor</td>
<td>Anemia</td>
</tr>
<tr>
<td>Dermatitis</td>
<td>Leukemia</td>
</tr>
<tr>
<td>Hypertension, cardiac arrhythmias, ventricular fibrillation (sudden sniffing death syndrome)</td>
<td>Bone marrow suppression</td>
</tr>
<tr>
<td>Tracheobronchial irritation, respiratory depression</td>
<td>Liver toxicity</td>
</tr>
<tr>
<td>Headache</td>
<td>Metabolic acidosis or alkalosis</td>
</tr>
<tr>
<td>Nausea, vomiting</td>
<td>Acute renal failure</td>
</tr>
<tr>
<td>Methemoglobinemia</td>
<td>Fanconi’s syndrome</td>
</tr>
<tr>
<td>Retinal toxicity</td>
<td>Increased risk for HIV</td>
</tr>
<tr>
<td>Coma</td>
<td>Increased risk for major depression</td>
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<tr>
<td></td>
<td>Increased risk for suicide</td>
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<tr>
<td></td>
<td>Binge drinking</td>
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<td></td>
<td>Cognitive deficits</td>
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<tr>
<td></td>
<td>(impaired learning and memory)</td>
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<tr>
<td></td>
<td>More substance use disorders</td>
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</tbody>
</table>

References

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