



# POST-ORGASMIC ILLNESS SYNDROME IN MEN: A SHORT INSIGHT

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Insights

A 20-year-old man was hesitant to visit the physician. Starting early adolescence, he had experienced some strange complaints, including burning eyes, an intense feeling of warmth all over his body and aching muscles. The symptoms were very unpleasant, mainly because they were present for up to a week at a time. Up until now, he had had around ten episodes of these complaints. However, he could not point his finger at a possible cause. He had just recently started masturbating, so his only thought was that perhaps this had something to do with the complaints. He hoped that the complaints would fade over time, but they did not. Eventually, he decided to visit the physician. The physician was clueless, since he had never seen such a case. Likewise, Waldinger and Schweitzer came across these complaints and became the first to describe men with these symptoms in literature [1]. Published in 2002, they named the syndrome post-orgasmic illness syndrome (POIS).

## Introduction

Sexual intercourse is a wonderful event happening between two people. However, contrary to what movies make us believe, this dance is not always flawless. Several processes could go wrong during intercourse. In men, who will be the focal point of this article, premature ejaculation is the most prevalent sexual dysfunction. Studies have found a prevalence of around 20 to 30%, although this percentage could be higher due to the embarrassment of both patient and physician and a lack of awareness [2]. In the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition, premature ejaculation is defined as an ejaculation within one minute of vaginal penetration, causing significant distress [3]. Another orgasm disorder in men is delayed orgasm. The World Health Organisation defines delayed orgasm as 'the persistent or recurrent difficulty, delay in, or absence of gaining orgasm, although the presence of enough sexual stimulation' [4]. Post-orgasmic illness syndrome (POIS) is another condition related to orgasm. The National Institutes of Health Office of Rare Disease Research in the United States of America recognises POIS as a rare condition [5]. The condition seems to occur only in men, as there is no available literature on POIS in women as of this date. The amount of literature researching this condition is limited. In this review, an overview of POIS will be given. Successively, history, diagnosis, pathophysiology, treatment and consequences of the condition will be highlighted.

## POIS: a short history

In 2002, Waldinger and Schweitzer were the first to suggest the name post-orgasmic illness syndrome as a cluster of symptoms [5, 6]. In their case report, the two men described flu-like complaints followed by cognitive problems, which lasted for about five to seven days [1]. The flu-like complaints included symptoms such as myalgia, fatigue, intense warmth throughout the body and local signs of allergy, such as sore throat, postnasal drip, skin erythema and burning eyes [1, 5]. The mental problems were characterised as decreased concentration and an irritated mood [5, 7]. The onset of symptoms was a few seconds to hours after sexual activity in these patients. Following this publication, a gradually increasing group of men recognised the symptoms and reported to be relieved that the condition had finally got a name [7].

In 2011, Waldinger *et al.* published a second article on POIS describing 45 cases in Dutch Caucasian males [8]. In this article, it appeared that

two types of POIS exist: a primary type, in which POIS starts at puberty or adolescence when a male has his first ejaculations, and a secondary type, in which the disorder has its onset later in life [7]. The distribution of the two types in these 45 men was almost half: 49% with the primary type and 51% with the secondary [7]. The prevalence and incidence of POIS are unknown due to a lack of studies [5]. Currently, 57 cases of POIS have been reported; of those, 47 were published by Waldinger *et al.* in 2002 and 2011 [6].

## Diagnosis

As the presentation of POIS comprises a wide spectrum of symptoms, Waldinger *et al.* proposed five preliminary diagnostic criteria for POIS (Figure 1) [8]. Patients have POIS when three or more of these criteria are met [9]. The first criterion requires having one or more symptoms, like the sensation of a flu-like state, irritability or concentration problems [5-7]. This criterion is further divided into seven clusters of symptoms: general, flu-like, head, eyes, nose, throat and muscle (Figure 1) [5-7]. Criterion two states that all symptoms should occur immediately or within a few hours after ejaculation initiated by coitus, masturbation or spontaneously during sleep [5-7]. According to criterion three, these symptoms must occur in over 90% of ejaculation events [5-7]. The fourth criterion states that the symptoms last for around two to seven days and the last criterion required the symptoms to disappear spontaneously [5-7].

Since these criteria were first proposed, literature has consistently used these criteria to diagnose and report cases [6]. In 2019, Strashny was the first to assess the validity of the criteria. Published in Nature, he performed a self-report study among 127 men with self-reported POIS. He found that of those 127 men almost all fulfil a majority of the criteria and even a large minority had all five [9]. He proposed to broaden the third criterion to 'in at least one ejaculatory setting', as this was seen most of the times [6]. A limitation of his study is the lack of verification of his findings through examination by a clinician.

## Pathophysiology

Little is known about the pathophysiology of POIS. Since it is a rare syndrome, only few studies have investigated this condition [6]. Nevertheless, there are a few hypotheses for the pathophysiology.

- Criterion**
- 1 One or more of the following symptoms: Flu-like state, extreme fatigue or exhaustion, myalgia, irritability, concentration problems, incoherent speech, itching and red eyes, congestion of nose.
  - 2 Symptoms occur in minutes to a few hours after ejaculation caused by coitus, and/or masturbation and/or spontaneously during sleep.
  - 3 Symptoms occur in more than 90% of ejaculations.
  - 4 Most symptoms last for around 2 to 7 days.
  - 5 Symptoms disappear spontaneously.
- Heidi DESIGN

**Figure 1: Criteria for diagnosis of POIS**

Patients are diagnosed with POIS when three or more of the criteria are met [5-7].

The first hypothesis was suggested by Waldinger *et al.* in their papers from 2011 [8, 10]. In the first of these two articles, they suggest that POIS is an autoimmune or allergic disease, in which the body reacts to its semen via Type-I and Type-IV reactions right after ejaculation [8]. The successful treatment of two men with hyposensitisation with autologous semen in their second article supports this hypothesis [10]. Kim *et al.* added to this hypothesis by finding an increased serum concentration of serum-specific IgE antibodies [11].

Contrary to the theory of Waldinger *et al.* and Kim *et al.*, Jiang *et al.* were not convinced that IgE-mediated semen allergy accounts for the symptoms associated with POIS. In their 2015 study, they investigated one Chinese man with POIS and indeed found positive skin reactions after autologous seminal fluid injection, just like Waldinger *et al.* [12]. However, they found no detectable serum concentrations of specific IgE antibodies, making a possible contribution of IgE in the mechanism of POIS less likely [12]. They compared POIS with opioid withdrawal, due to similarity in the manifestations of both. They suggested that orgasms consume large quantities of endogenous opioids in POIS patients [12].

In a case report, Ashby and Goldmeier proposed a different hypothesis in which POIS is driven by a disorder in the cytokine or neuroendocrine response [13]. The fact that the administration of prophylactic diclofenac, a non-steroidal anti-inflammatory drug, improved the symptoms of patients supported their hypothesis [6].

Lastly, Bignami *et al.* suggested POIS could be the manifestation of a dysregulation of the autonomic nervous system as ejaculation triggers sympathetic activity and, therefore, a release in norepinephrine [14].

## Treatment

POIS is a rare condition where underdiagnosis and under-reporting are highly likely [5]. Currently, there are no recognised treatment modalities for POIS [5]. Until now, patients with POIS have been treated with antihistamines, selective serotonin reuptake inhibitors and benzodiazepines [15]. In a case report, Ashby and Goldmeier observed an 80% improvement of symptoms after treatment with diclofenac [13]. In 2011, Waldinger *et al.* successfully treated two Dutchmen with hyposensitisation therapy using autologous semen leading to 60 and 90% improvement of symptoms [10]. In 2017, Gerber proposed flooding as a treatment mechanism, in which patients are advised to keep

masturbating just like normal despite the symptoms present [16]. As a result, a desensitisation to the stimulus can be attained. It was shown to be successful in one patient, which indicates the requirement for more research.

## Burden of POIS

POIS has some severe mental and psychosocial consequences. Due to the fear of ejaculation and the associated symptoms, many patients with POIS decrease the frequency of their ejaculation or abstain from it all together [5, 6]. This can lead to an internal struggle, disturbing the sexual life of the patient. The associated decrease in concentration and alertness can have consequences for their work or study, requiring precise planning of intercourse to prevent these symptoms from interfering with these essential daily activities [5, 6]. Young people with POIS might have doubts when in search of a romantic partner, as they fear refusal of their partner due to their sexual abstinence [7].

## Conclusion

In short, POIS was first mentioned in 2002 as a cluster of symptoms, including flu-like symptoms and cognitive problems. Since then, an increasing group of men reported their symptoms and more literature on this disease emerged. Five diagnostic criteria were proposed. The pathophysiology remains generally unclear, but there are a few proposed theories. There are no recognised treatment modalities for POIS, but hyposensitisation therapy, diclofenac and a number of other drugs have been shown successfully in individual cases. Furthermore, POIS causes a significant burden for the patient, as their sexual life is disturbed. POIS is a rare but debilitating disease in which a lot of research needs to be done to treat these patients sufficiently.

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## EXAM QUESTIONS

As RAMS aims to enlighten both students and professionals, we would like to present you two exam questions. Find out if you can remember what you have learned during your bachelor's!

*We challenge you!*

### Question 1:

The embryonal 'tube-within-a-tube body plan' arises due to the curving of the embryonic disc. With a congenital condition in which the inner tube has locally no lumen, the child will ...

- A. Miss a cavity (ventricle) in the brains.
- B. Have an obstruction in the aorta.
- C. Have an obstruction in the intestines.
- D. Have regulatory captures in the abdomen.

*(Topic from Q5-2 MGZ From cell to tissue, 2018)*

### Question 2

Every year, patients with diabetes are investigated on having microvascular complications. Besides an investigation of the eyes and kidneys, there is also an investigation of the ...

- A. Liver
- B. Feet
- C. Heart

*(Topic from Q3 MGZ Diabetes, 2019)*

**The answers to these questions can be found on page 9 in this journal.**