



Ibuprofen and Penile Erection- A Case Report Of Increased Erectile Function Post Dental Therapy

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Abstract:

Non-steroidal anti-inflammatory drugs (NSAIDs) are widely prescribed therapeutic agents in dentistry for management of pain and inflammation. NSAIDs can cause side effects such as gastric ulceration, hepatic injury, and renal damage and can lead to increased internal bleeding. However, NSAIDs comprise of drugs with varying chemical composition and hence display different side effects. This case report describes a rarely reported side effect of ibuprofen in an otherwise healthy Libyan male of increased penile erection. However, the authors neither recommend the regular use of ibuprofen to improve the penile erection nor speculate that the administration of ibuprofen could improve the penile erection in all cases. Further research with well-designed studies is necessary to understand the effects of the Ibuprofen on male sexuality and sexual behaviour.

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1. Introduction

Non-steroidal anti-inflammatory drugs (NSAIDs) are among the most widely prescribed drugs.^{1,2} They are relatively safe, effective and are generally administered in dental clinics in the treatment of pain and for reduction of inflammation. They increase patient satisfaction, decrease the need for opioid analgesics and are effective in management of dental pain.^{3,4,5,6} The combination of NSAIDs are also used regularly after dental surgeries and have shown encouraging results.^{7, 8} However,

NSAIDs can cause side effects such as gastric ulceration and renal damage.⁴

Ibuprofen is a NSAID and is widely used for its analgesic, antipyretic and anti-inflammatory effects.⁹ Since its invention, before five decades it has turned from a prescription drug to over the counter therapeutic mainstay to counter pain, fever and inflammation. It is shown to provide pain control equivalent to that of narcotics. It is known to have a low possibility of gastrointestinal effects, renal damage, associated cardiovascular events. The risk of developing liver injury with Ibuprofen are low when compared with the potential for



irreversible liver damage observed with paracetamol. It is not associated with an increased risk of bleeding when administered postsurgically. It has a short plasma half-life of elimination which leads to its low residence time in the body and may be the reason for its low toxic potential.¹⁰⁻¹²

Erectile dysfunction (ED) is defined as the inability to achieve and maintain a penile erection which is adequate for satisfactory sexual intercourse. ED is a male health problem affecting men across cultures, regions and nationalities. It is significantly associated with stigma and embarrassment. The prevalence of ED increases with aging though it can affect individuals of younger age. It is estimated that as many as 5-20% of men have moderate to severe ED and overwhelming majority of them remain untreated.^{13, 14, 15, 16, 17} ED is strongly associated with comorbidities such as neurological diseases, cardiovascular disease and hypertension, diabetes mellitus, lower urinary tract symptoms, prostate cancer, and depression. Lifestyle factors, including obesity and exercise frequency, are also associated with ED.^{16, 17} A variety of drugs including mood stabilizers, anxiolytic drugs, antipsychotic and antiepileptic drugs have all been implicated to cause ED.¹⁸⁻²²

2. NSAIDs and ED:

A questionnaire study showed that the use of NSAIDs increases the risk of ED.²³ Gleason et al. conducted an observational prospective cohort study in an ethnically diverse population of 80,966 men aged 45 to 69 years. The study suggested that the regular NSAID use was associated with ED. Moreover, the data showed that the NSAID use was associated with a 22 percent increase in the risk of ED.²⁴ The study definition of NSAIDs was broad in case of

this study. It did not exclude the low-dose aspirin which is common in CVD patients and the use of paracetamol. NSAIDs are a heterogeneous group of drugs with similar mechanisms of action. However, they are different chemically. They possess different potential risks and side effects.²⁵ Furthermore, in a study analyzing data to evaluate the associations of non-steroidal anti-inflammatory drug (NSAID) use with risk of ED. The authors found that NSAID use was not associated with ED risk.^{26, 27} The available literature does not clearly elucidate the effects of NSAIDs on male sexual behavior and penile erection. Further epidemiological studies that study this relationship should assess the type, amount and duration of the NSAIDs use as well as the quality and timing of penile erections relative to use. They should also take into consideration any confounding factors that could affect the penile erection.²⁷

3. Case Report:

A 34 year otherwise healthy male reported to the dental outpatient clinic at the Faculty of Dentistry, Sebha University, Sebha, Libya. The patient underwent a regular dental outpatient treatment procedure. The patient was administered a single dose of 600 mg Ibuprofen. The patient reported of better penile erection and increased satisfaction with sexual intercourse after a few hours of undertaking the medication. As Ibuprofen is OTC drug, the patient informed us of using it again before sexual intercourse and having found the same results. The patient was married and had a productive marital life. The patient informed us that had no prior sexual dysfunction.

The patient's records were re-examined and parameters including blood count, lipid profile, Thyroid-Stimulating Hormone (TSH), Testosterone levels were



examined and were found to be within the normal limits.

4. Discussion and Conclusion

The effects of NSAIDs on the penile erection is not clear. There have been contradictory reports of regular use of NSAID and their relationship with ED.^{19,23,27} Indomethacin and Celecoxib have been reported to cause ED.^{28,29,30} Indomethacin and Diclofenac have been shown in animal studies to cause lower erectile responses to electrical stimuli.³⁰ An animal study on the effects of Nimesulide found that at normal therapeutic doses it may not be spermatotoxic. In addition, at the studied dose, it was shown to have a mild degenerative effect on the testicular architecture.³¹ However, our literature search on PubMed did not yield results for the effects of Ibuprofen on male sexual behavior or penile erection except a similar case report.³² To our knowledge we are hereby reporting the first case of enhanced penile erection following the post dental administration of Ibuprofen from the North Africa region. Ibuprofen has been used in management of certain penile diseases such as Peyronie's disease for its anti-inflammatory properties.³³ However the authors do not recommend the regular use of ibuprofen to improve the penile erection as it is out of the scope of this paper. We would like to make a point that in certain cases Ibuprofen may enhance penile erection and well-designed studies should be carried over to understand the effects of the Ibuprofen on penile erection.

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