

Aspirin and Periodontal Considerations

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Abstract

Periodontitis is an infection of the supporting tissues of the teeth. Just like periodontitis can have an effect on systemic health, there are various systemic conditions that can also have an impact on periodontium. There are various systemic conditions like hypertension, diabetes, cardiac issues, which do have an effect on periodontium and for these individuals, the dental practitioner should have a thorough knowledge about the mechanism by which these systemic conditions can have an ill effect on the periodontium and henceforth special treatment considerations are needed for these types of individuals while treating their periodontal conditions. Aspirin is a non-steroidal anti-inflammatory drug, as well as a blood thinner, that is used by patients who have undergone angioplasty, cardiac bypass surgery, and patients having polycythemia. Talking in terms of dental aspects as bleeding is a usual consequence of periodontal treatment procedures like scaling, flap surgeries, so special considerations needed to be kept in mind while treating these types of patients in order to avoid any unnecessary consequences because of excessive bleeding. This review aims to guide the clinical practitioners regarding how aspirin is correlated to periodontal health, as well as what all considerations needed to be kept in mind while planning periodontal treatment for the patients on aspirin.

Keywords: Periodontitis; bleeding; aspirin; cardiac; INR

Introduction

Gingivitis and Periodontitis are the two most common pathological entity in the field of Periodontology. Gingivitis refers to inflammation which is limited to gingiva only; but when there is an extension of this inflammation from gingiva into the supporting tissues of the teeth, then this pathological entity is known as periodontitis. Various types of periodontitis are identified such as chronic periodontitis, aggressive periodontitis, periodontitis as a manifestation of any systemic diseases [1]. Since it is well known proven fact during the past centuries that Periodontitis and systemic conditions are related to one another, as any pathogenesis occurring in one compartment, do have pathological effect on other compartment as well. So talking in terms of systemic manifestations of periodontal disease, various systemic conditions like diabetes patients on aspirin therapy, on antihypertensives, immunosuppressants, antiepileptic drugs, do have an impact either before the periodontal treatment, during the periodontal treatment, or after the periodontal treatment [2].

Aspirin and Cardiac Condition Aspirin refers to a class of non-steroidal anti-inflammatory drugs (NSAIDs) used to control minor aches, fever, as well as a blood thinner. The main use of aspirin is that it acts as a blood thinner [3]. In the past centuries, older adults, because of age being a major factor, developed a compromise in their cardiac health. But talking in terms of today, so here sedentary lifestyle being an important factor, many young age patients had their cardiac health compromised at such an early stage (Table 1). Angina, arrhythmias, are the cardiac conditions which ultimately put an individual to the cardiac arrest. These conditions occur because the heart is unable to meet the oxygen demand of the body as it is unable to pump the sufficient blood because of which the blood get thicker and the ultimate result is the formation of clot which leads to the blockage of the arteries of the heart and the end result is the myocardial infarction, and to a very end result in complete cardiac arrest [4]. Once a person is diagnosed with a cardiac condition, then the main aim becomes to avoid the very end result, and this can only be achieved by preventing the formation of clots

by making blood flow thinner. So hereby Aspirin acts as a major drug of action because of its blood thinning property and is used as

a blood thinner so in order to prevent the blood clot and henceforth a complete cardiac arrest [5].

Table 1

| S No | INR Value | Type of Periodontal Treatment |
|------|-----------|-----------------------------------|
| 1. | INR<4 | Scaling, Root planning, curettage |
| 2. | INR<3 | Periodontal flap surgery |

Aspirin And Periodontal Treatment

Cardiac patients on aspirin are at a severe risk of bleeding during periodontal treatment and after the periodontal treatment as well because of the thinning of blood flow by aspirin. So special care needs to be taken for such patients so that in order to protect this type of patient at their risk of life. Since periodontal treatment consist of the non-surgical management (Scaling, root planning, curettage), as well the surgical management (flap surgery, regenerative surgery, resective surgery, mucogingival surgery), so the most common thing to be considered during both this treatment is the occurrence of bleeding intraoperatively, and postoperatively. Bleeding can be because of gingival inflammation, or systemically because of various medical conditions like diabetes mellitus, hypertensive patients, patients underwent angiography, angioplasty, cardiac by-pass surgery (as most of these patients are on a blood thinner that is aspirin) [6]. Talking in terms of those who are on aspirin, there is a severe risk of bleeding both intraoperatively, or postoperatively, if the aspirin dose is either not modified or if the aspirin is not stopped prior to treatment. In order to have successful periodontal therapy for those who are on aspirin special considerations must be taken so that in order not to put the individual at a risk of their life [7]. Hence while planning for the Periodontal treatment, few considerations need to be kept in the mind such as:

- After taking a thorough medical history about cardiac condition and aspirin, a proper physician consent must be written in which there should be a proper explanation about patient periodontal condition, treatment a dentist is going to do, and what risk a treatment can have in relation to Aspirin [8].
- Advise whether the dose of aspirin can be modified, or the aspirin can be stopped for how many days prior to the periodontal treatment [8].

International Normalized Ratio (INR)

In most cases, aspirin dose can be modified, or it can be stopped prior to periodontal treatment by the physician. But what if the physician refuses to modify the dose of aspirin, or aspirin cannot be stopped for few days as both these things can put an individual life at risk. But still the treatment of periodontal condition of patient becomes important. In that case, a dentist must go for the INR ratio (International normalized ratio) which is the ratio of [9]. Patient Prothrombin time/Actual Prothrombin time. This ratio has certain values which determine at what value what type of dental treatment can be carried out. This INR ratio comprises of the following values:

Conclusion

Periodontal infection is a systemic infection. It has the chances of rapidly being spread into the systemic circulation from the oral cavity and this has been proved by various research carried out in the past. Just like periodontal condition has an effect on the systemic condition, in the similar manner, many systemic conditions do have an effect on the periodontium like delayed wound healing, excessive bleeding, inflammation of the gingiva, multiple abscess. Among these one of the systemic conditions that can have an impact on periodontal treatment both intraoperatively and postoperatively is the patients on aspirin therapy. Periodontist, being the specialist of gums, must know that these patients can encounter tremendous bleeding both intraoperatively and postoperatively. In such cases aspirin dosage needs to be modified for successful periodontal treatment and without putting the patient's life at risk. Periodontist must know that what to do if the dosage of aspirin cannot be modified or aspirin cannot be stopped for few days and must be aware of the international normalized ratio and its value through which the periodontist must carefully decide the line of periodontal treatment. Hence for the successful management of patients on aspirin that have the periodontal complications as well, a close line of concern should be present between the physician and the Periodontist or a Periodontist must alone be able to manage the periodontally compromised patients who are on aspirin in which the physician cannot give the concern for the modification or the stoppage of aspirin, so that a patient can remain both in good state of systemic health, and oral health as both these health are the mirror for each other.

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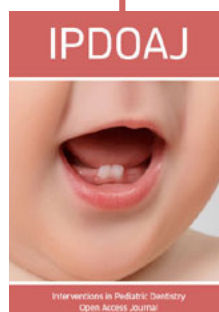
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