



Katalu Mayu as an Hemostatic Agent after Tooth Extraction In Patients with Impaired Hemostatis - Prospective Analysis of 300 Patients

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ABSTRACT:

Introduction: Many topically applied anticoagulants have been used to stop bleeding after tooth extraction. Ayurvedic product such as Katalu Mayu has shown its efficacy for stoppage of bleeding after dental extraction.

Materials and Methods: In this study, topical application of styplon powder was done over post extraction site in 300 patients, who are on oral anticoagulant therapy with prolonged bleeding time. Patients with age group of 30-50 years with 10-20 minutes of bleeding time suffering from systemic underlying illness like hypertension and taking acetyl salicylic acid and Warfarin were selected. Patients with systemic disease like hematologic, renal, or liver disease, bone marrow disorders or any concurrent medication affecting hemostasis were excluded. Dental extractions were carried out using local anaesthetic agent 2% Lignocaine with Adrenalin. No pressure pack was given and Katalu Mayu was applied in powder form on teeth sockets.

Results: Out of 300 patients, 291 patients showed stoppage of bleeding within 60 seconds.

Discussion: Dental extractions can be carried out without discontinuation of anticoagulant therapy. In such cases, the Ayurvedic product Katalu Mayu can be effective for stoppage of bleeding immediate after dental extractions.

Conclusion: Katalu Mayu can be of effective remedies to stop bleeding immediate after dental extraction in patients who are suffering from hypertension and taking antihemostatic drugs.

Keywords: Bleeding time, Haemostasis, Hypertension, Katalu Mayu, Lignocaine

I. INTRODUCTION

Patients taking oral anticoagulants have been on a rise since the past few decades. These patients are a concern for oral and maxillofacial surgeons as they are prone to prolonged intra-operative and postoperative bleeding. There is no dearth of literature on anticoagulant agents and management of these patients without stopping the anticoagulant therapy. Indian subcontinent is the treasure house of numerous plants and medicinal properties have been assigned to several thousands. Recently there is renewed interest in use of various Ayurvedic drugs for oral and dental health.¹

Katalu Mayu is a combination of many Ayurvedic compounds which have historically been used in traditional Ayurvedic medicine in India. It is a highly complex compound which on oral administration has a remarkable styptic effect.² Katalu Mayu acts by causing contraction of the microcirculation without affecting normal coagulation processes or the blood pressure.³ The aim of our study was to observe the topical haemostatic effects of Styplon on patients on anticoagulation therapy undergoing extraction.

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II. MATERIALS AND METHODS

This study was carried in the department of oral and maxillofacial surgery, Siddhpur dental college and hospital, Gujarat. In this study topical application of styplon powder was done over post extraction site in 300 patients on oral anticoagulant therapy with prolonged bleeding.

Inclusion criteria

Patients with bleeding time 10-20 min, INR < 3.5, patients with median age group 30-50years, patients with underlying systemic illness (hypertension), patients on drugs (acetyl salicylic acid, Warfarin)

Exclusion criteria

Patients with systemic disease like hematologic, renal, or liver disease, bone marrow disorders, alcoholism, or any concurrent medication affecting hemostasis such as oral or parenteric anticoagulants or anti-inflammatory drugs and patients who needed extractions of deciduous teeth, surgical extractions, extractions in different quadrants, or multiple extractions (>1 tooth) were excluded.

Extraction protocol

Informed consent was taken from the patients. Dental extraction was carried out under local anesthesia using 2% lignocaine without adrenaline. All extractions were performed using forceps. Post extraction sockets were compressed for two minutes and were observed for bleeding. Katalu Mayu in powder form was topically applied on extraction socket (Fig: 1). No pressure pack was placed.



(Fig:1 Katalu Mayu)

Patient was observed for active bleeding and time for cessation of bleeding was noted. A dry environment was created by continuous meticulous suction while taking measurements. On re-evaluation if patient had no bleeding they were discharged and instructed to be in contact through the phone or report to the hospital casualty. If bleeding persisted then Katalu Mayu was reapplied and patients were asked to bite on pressure pack for 5 min. After 5 minutes patients were again evaluated for bleeding. They were discharged if no bleeding was present. All patients were given appropriate postoperative instructions and were advised to immediately report if any hemorrhagic complications develop. All patients were asked to continue their regular dose of oral anticoagulants.

Table - 1 Composition of Katalu Mayu

Ingredients	Contents	Action
Pravalpishiti	0.13 g	increases immunity
Amalaki (emblicaofficianalis)	130mg	helps the integrity of capillary endothelium due to its Vitamin content
Anantamul (hemidesmusindicus)	65 mg	Blood purifier, antibacterial
Chandana (santalum album)	65 mg	Antibacterial, anti inflammatory
Lodhra (symplacosraceмосa)	65 mg	Styptic, improves wound healing
Nagkesara (mesuaferrea)	60mg	Styptic
Durva (cynodondactylon)	30 mg	Styptic, anti allergic
Lajjalu (mimosa pudica)	30mg	Styptic, improves wound healing
Vasaka (adhatodavasisa)	30mg	Astringent
Sourashtribhasma	30mg	Astringent, Styptic
Trinakantamanipishiti	30mg	Styptic
Sodium methyl paraben IP		Preservative
Sodium propyl paraben		Preservative

Post operative evaluation

Patients were evaluated for immediate, late and delayed post extraction bleeding. Patients were recalled after 7 and 15 days to evaluate the healing of extraction socket.

III. RESULTS

There were no toxic or untoward reactions to Katalu Mayu in any of the cases studied.

Table - 2 Bleeding stoppage time

Time (in seconds)	No. of patients	Average bleeding stoppage time
1-60	203	41.65
61-120	047	72.29
121-300	023	193.87
301-600	018	389.61
Total	291	

Out of 300 patients 291(97%) patients showed stoppage of bleeding without pressure packs. Out of 291 patients, 203 achieved hemostasis in an average time of 41.6 second (range 13–59sec), in 47 patients bleeding stopped in 72.27 sec (range 61-97sec), in 23 patients it took 193.87 sec (range 124-295sec) and in 18 patients it took 389.61 sec (range 310-525) (Table-2). In 9 patients Styplon with pressure pack for 5 minutes achieved bleeding control.

Table - 3 Bleeding stoppage time with INR

No. of patients with INR	1-2	2-3	3-3.5
Time(second)			
1-60	161	44	0
61-120	24	21	0
121-300	2	16	5
301-600	0	5	13
Total(291)	187	86	18

In majority of the patients (161) with INR < 2 bleeding was stopped within 60 seconds, bleeding stopped within 600 seconds in patients (18) with INR between 3–3.5(Table-3). No patient reported with postoperative bleeding. Healing of the extraction sockets in all the patients proceeded uneventfully.

IV. DISCUSSION

Antiplatelet drugs are currently widely used in primary and especially secondary prevention of cardiovascular events.⁴ Their effect is slowly established but have a prolonged effect. The recommended therapeutic ranges of INR are 2-3 for atrial fibrillation, venous thromboembolism and myocardial infarction and 3-4 for artificial valves.⁵

Dental management of patients on antiplatelet therapy is still not clearly defined. The discontinuation of antiplatelet therapy increases the risk of thrombotic complications, whereas uninterrupted antiplatelet therapy is assumed to increase the bleeding complications after dental surgical procedures. Dental extractions are considered minor surgical procedures and are associated with little blood loss.⁷ When such patients present for invasive dental procedure then question arises whether anticoagulant therapy should be continued, modified or discontinued.⁸

Simple extractions can be accomplished without cessation of anticoagulation therapy⁹. For simple tooth extraction in patients with INR levels of 2.5 or lower the use of a local anti-fibrinolytic agent should be adequate.¹⁰ The use of gelatin sponges and sutures after simple extractions has been shown to control postoperative bleeding in patients with INRs as high as 3.5.⁹

In the present study simple extractions were carried out without the cessation of anticoagulant therapy. To control postoperative bleeding Katalu Mayu, an indigenous mix of drugs of herbal origin was used. Its various components seem to help the normal process of blood coagulation to increase the tone and strength of the capillaries (Table-1). Dr. Mansukhani in 1964 first reported that the use of similar ayurvedic preparation (Styplon) reduced dental haemorrhage in 83.8% cases.² In a study by Mascarenhas et al 82.5% of cases showed

good and satisfactory response to Styplon(similar ayurvedic product) therapy², while in their study Goel et al have 97% cases showing definite reduction in bleeding during oral prophylaxis after Styplon therapy.¹¹

In our study of 300 patients 291 (97%) patients showed stoppage of bleeding without pressure packs on application of Katalu Mayu.

Out of 291 patients, 203 achieved hemostasis in an average time of 41.65 sec(range 13–59sec), in 47 patients bleeding stopped in 72.27sec(range 61-97sec), in 23 patients it took 193.87 sec (range 124–295sec) and in 18 patients it took 389.61 sec (range 310- 525). (Table – 2). 9 patients did not achieve hemostasis immediately but after repetition of topical application of Katalu Mayu and pressure pack application for 5 minutes bleeding stopped. However no correlation could be made to the delay in achieving hemostasis in these patients.

V. CONCLUSION

Based on the previous published reports and our experience on 300 patients it is safe to conclude that Katalu Mayu is an effective haemostatic agent in bleeding associated with dental procedure in patients with impaired hemostasis. It can represent itself as an alternate therapy which not only provides hemostasis but also confers antibacterial and healing properties. However, future controlled trials are needed to shed further light on efficacy of Katalu Mayu.

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