

## **Effectiveness of Symphytum Officinale as an Osteogenesis enhancer in undisplaced fracture: A Randomized Control Trial**

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### **Abstract**

**Objective:** 1.This study was done to find time required for fracture healing in patients receiving conventional line of treatment by radiographical study and time required for healing in patient receiving symphytum officinale 30C along with conventional line of treatment by radiographical study.

### **Material and Method:**

A Randomized Control Trial to explore the Effectiveness of Symphytum Officinale as an osteogenesis enhancer in undisplaced fracture was conducted at Motiwala Homoeopathic Medical College and Hospital, for a period of six months. Thirty cases of un-displaced fracture based on radiological examination were selected as per the inclusion criteria using simple randomization technique. Symphytum officinale 30C was prescribed in study group along with conventional line of treatment and the control group received only conventional line of treatment. X-ray was taken on 21<sup>st</sup> day and 45<sup>th</sup> day. The data was analyzed.

### **Results:**

Study group consist of 15 patients in whom 3 cases showed early callus formation and 12 cases showed good callus formation in 21 days. Control group consist of 15 patient in which 8 cases showed good callus formation and 7 cases showed no callus formation in 21 days.

### **Conclusion:**

The study conducted has explored the osteogenetic property of Homoeopathic remedy, Symphytum officinale has proved to promote calcification as early as 21<sup>st</sup> day in study group. Thus symphytum is an effective osteogenetic enhancer in undisplaced fractures, and can be an adjuvant to conventional line of treatment. More rigorous studies with large sample size are however desirable.

**Keyword:** Symphytum officinale 30C, Homeopathic medicine, undisplaced fractures\_

### **Introduction:**

Homoeopathy, the energy medicine is a branch of medical science based on the principle that disease can be cured by strengthening the body's defense mechanism with substances selected for their energy giving properties<sup>1</sup>.Symphytum officinale is the homeopathic remedy prepared from the common hedgerow plant-comfrey. Comfrey's ancient English name is "knit bone", and it is said that country bonesetters used it to repair broken bones. The story is that the bone would be set and then comfrey leaves would be bound to the area around the fracture with bandage. Symphytum officinale promotes the repair of broken bones, especially when they heal slowly. Report shows that in olden times leaves of comfrey were used by Roman soldiers to treat fractures<sup>2</sup>.Some studies done in vitro show promising effects of comfrey leaves scientifically named as Symphytum Offincinale<sup>3</sup>. A study done by George Vithoulkas suggest faster healing of fracturescale of grading severity of acne) using Symphytum<sup>4</sup> . Those evidences prompted us to ponder if Symphytum can accelerate healing and result in fewer days of immobilization.

The first radiological examination of a fracture is only complete when the whole of the involved bone has been x-rayed in two planes at right angles to each other, since only in this way the full extent of the bone injury is demonstrated and the presence of associated joint injuries can be detected. As the fracture hematoma becomes organized to form fibrous tissue and subsequently woven bone, the abnormal movement originally demonstrated at the fracture site diminishes. Slight movement can, however, still be elicited. Stressing the fracture site is painful, and local tenderness persists. At this stage the fracture is described as being 'sticky'. Between the 3rd and 6th week following injury, the calcification and subsequent ossification occurring in the callus become visible radiologically. As this process progresses the fracture site becomes decreasingly tender and increasingly rigid and strong. By approximately 6 weeks (the exact time varies with the age of patient and the nature of fracture) healing has progressed so that no abnormal movement can be detected when the fracture is stressed. Stressing the fracture site is scarcely painful. Local palpation provokes little or no tenderness. At this stage the fracture is described as being 'united'.<sup>5</sup>

**Material and Method:**

A Randomized Control Trial to explore the Effectiveness Of *Symphytum Officinale* As An Osteogenesis Enhancer in Undisplaced Fracture was conducted at Motiwala Homoeopathic Medical college and Hospital, for a period of six months. Thirty cases of un-displaced fracture based on radiological examination were selected as per the inclusion criteria using Simple randomize technique. Group –A consisted of 15 Odd cases registered (Control group) and the Group B consisted of 15 even numbers of registered cases (Study group). Study group were given 4 globules of *Symphytum officinale* 30C thrice a day for 21 days and after that placebo was given up to 45<sup>th</sup> day. The control group received conventional line of treatment for the same period. The Outcome was measured on the basis of calcification on 21<sup>st</sup>, and 45<sup>th</sup> day seen by radiological examination.

Follow up and assessment: Follow up was assessed on 21<sup>st</sup> and 45<sup>th</sup> day on the basis of calcification seen by radiological examination. The major symptoms considered for clinical assessment were pain, swelling and tenderness.

Result: Study group consisted of 7 female and 8 male subjects with fracture of hand<sup>3</sup>, elbow<sup>2</sup>, forearm<sup>3</sup>, knee<sup>1</sup>, leg<sup>1</sup>, ankle<sup>1</sup>, foot<sup>4</sup>. Control group consisted of 6 female and 9 male subjects with fracture of shoulder<sup>2</sup>, forearm<sup>1</sup>, wrist<sup>4</sup>, leg<sup>1</sup>, ankle<sup>1</sup>, and foot<sup>6</sup>. Complete healing was not seen in both the groups after 21 days. On 21<sup>st</sup> day calcification was seen in all 15 cases of study group, and 8 cases of control group. Good calcification was seen in 12 cases from study group and 8 cases in control group.

**Discussion:** 15 patients were considered in study group where *Symphytum* was prescribed in a dose of 30 potency with daily repetition of thrice a day for a period of 21 days. They received conventional line of treatment along with homoeopathy. 15 patients were considered in control group. They were treated using conventional line of treatment. The conventional line of treatment for both the study and control group was administered by an orthopedician. Status of calcification was noted after 21 days and 45 days of treatment on the basis of Radiological findings. Study group consisted of 7 female and 8 male subjects with fracture of hand (3), elbow (2), forearm (3), knee (1), leg (1), ankle (1), foot (4). The individuals of study group were in age group of 1-10(4patient), 11-20 (1patient), 21-30 (4patient), 31-40 (4patient), 41-

50(1patient) and 61-70 (1patient). In control group 6 female and 9 male consisted of subjects with fracture of shoulder (2), forearm (1),wrist( 4),leg (1) ,ankle (1),and foot( 6). They belonged to the age group of 1-10 (2 patients), 21-30 (1 patient), 31-40 (8 patients), 41-50 (1 patient) and 51 – 60 (3 Patients). On 21<sup>st</sup> day calcification was seen in all 15 cases of study group receiving both *Symphytum officinale* and the conventional treatment, whereas as only 8 cases of control group receiving conventional treatment showed calcification. As regards to Good calcification it was seen in 12 cases from study group and 8 cases in control group. Calcification as early as 21<sup>st</sup> day in all the study group patients may be owing to the greaterosteogenetic property of *Symphytum* which these patients of study group received. No particular age or sex showed predominance in early calcification. However in both the groups that participated in the study did not show complete healing on 21<sup>st</sup> day radiographs. Absence of calcification in 7 cases of control group on 21<sup>st</sup> day as against all the cases from study group corroborates to the greater osteogenic effect of *Symphytum*. Thus, *Symphytum* has enhanced formation of callus as compared to conventional line of treatment. Though all individuals of study group showed calcification on 21<sup>st</sup> day, the immobilization is continued as there was no complete healing of the fracture. This shows that *symphytum* can accelerate healing but cannot reduce the days of immobilization. Bigger sample with extended time of research would provide better result. A further study could be conducted to find out the role of *symphytum* in non healing fractures or delayed fracture healing cases.

### **Conclusion**

The study conducted has explored the osteogenetic property of Homoeopathic remedy, *Symphytum officinale* has proved to promote calcification as early as 21<sup>st</sup> day in study group. Thus *symphytum* is an effective osteogenetic enhancer in undisplaced fractures, and can be an adjuvant to conventional line of treatment. More rigorous studies with large sample size are however desirable.

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