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## Radiofrequency thermocoagulation, an effective treatment option in patients with Coccydynia: A case series

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Despite being accounted back in 16th century, Coccydynia still remains a mystery and sometimes controversial. Multiple treatment modalities have been proposed for conservative treatment of coccydynia. Ganglion Impar (ganglion of Walther) is an unpaired retroperitoneal structure which provides sympathetic innervation of the perineum. Ganglion block has been effective in treatment of coccydynia that could not be relieved by classic treatment protocols. We retrospectively analyzed the collected data of 39 patients with chronic coccydynia (pain > 6 months). Patients were identified by our pain clinic databases who were treated by RFT of the ganglion between January 2010 and June 2014. The authors succeeded in contacting 35 patients for follow-up. All patients had been previously treated with conservative methods, but none had pain relief. A retrospective analysis was done on the basis of questionnaire administered to these patients. Pain level of the patients were assessed by pre and post treatment visual analogue scale (VAS) score and the modified Oswestry (ODI) disability index. The mean age of the patients was 39+/-12 (range 20-65) with 23 female (67%) and 12 males (33%). The average follow up duration was 22 +/- 12 months. Statistical significance difference was noted between pre and post procedure VAS score ( $p < 0.01$ ). Patients also had greater OSW score post procedure but not significantly ( $p$  value  $> 0.01$ ). The clinical results among the 35 patients with follow up were as follows: 14 excellent, 9 good, 6 fair and 6 poor. Marked improvement was noted in 14 of the 35 patients (40%). There were no major side effects. Various methods of treating coccydynia are found in the literature. The radiofrequency thermocoagulation of ganglion impar block is a low risk, highly effective and minimally invasive procedure alternative to surgery for coccydynia patients who are non responsive to conservative treatment. The most important factors determining success of the procedure is strict patient selection and the technique of the procedure. As the study group was small, further randomized, prospective study are needed to fully evaluate the effectiveness of radiofrequency thermocoagulation for ganglion impar block.

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## Tapentadol HCl Buccal Tablet: Formulation, *in-vitro* optimization and *ex-vivo* evaluation

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The prepared Novel formulation used for chronic pain management after surgery. The present investigation deals with the development and optimization of the mucoadhesive buccal tablet containing tapentadol hydrochloride with a goal to increase the bioavailability by avoiding the first-pass metabolism. The tablets were prepared using polycarbophil as a bioadhesive polymer to impart better mucoadhesion, Hydroxy propyl methyl cellulose (HPMC K15M) as a release retardant polymer to control the release of drug and Ethyl cellulose (EC) to act as an impermeable layer to provide the unidirectional release of drug. The optimized formulation (F5) contained 20mg of HPMC K15M and 7.5 mg of polycarbophil had shown Mucoadhesive strength (0.333 N), swelling index (43.96%) and % drug release at 5 hr. (94.97%). *ex-vivo* permeation was found to be 48.38% at 5 hr. The release mechanism was found to be anomalous non-Fickian type. It can be concluded that buccal route can be one of an alternative available for the administration of tapentadol hydrochloride.

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