

Original Article

Stylalgia: a novel approach to treatment

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Abstract:

Purpose:

- (1) To evaluate digital fracture of enlarged styloid as a clinical maneuver, in office setting, in relieving symptoms in stylalgia.
- (2) To avoid surgery or long term medications as definitive treatment of stylalgia.
- (3) To reduce the investigations, workload in OPD and thereby ultimately cutting the cost of health care.

Methods: This study started with total relief of symptoms in a stylalgia patient instantaneously after incidental fracture of enlarged styloid process of the same side during routine clinical palpation. Encouraged with this we started this study; within the period from June 2008 to May 2010 total 36 patients were included in this study.

Results: We had 36 cases with stylalgia, among them 4 cases had enlarged styloid so thick that they were resistant to digital fracture. Those 4 cases were taken for surgery. Among those four cases 3 (75%) were male. We found male styloid tougher and harder than that of females. We were able to fracture enlarged and symptomatic styloid in OPD in 32 cases. Among them after initial 1 hour, observation after the maneuver, 10 (31%) had complete of their symptoms and also 13 (40.6%) cases had considerable improvement of their symptoms within 1 hour, but 9 cases felt no improvement. We followed up our patients after, 1 week, 2 week, 1 month and 6 months. After 1 month, 26 had complete symptoms relief, 3 had considerable improvement and 3 felt no improvement. But after 6 months of follow-up, 2 cases with symptoms relieved completely, developed symptoms but with much lesser intensity.

Conclusion: Using this simple in office procedure we were able to avoid long term medicines, recurrent investigations. By giving relief we could avoid surgeries in large majority of cases, making the already over burdened theater available to other patients and also cutting preoperative investigations. Thus we can cut the burden of health care for such chronic cases.

Key words: Styloid process; stylalgia; digital fracture

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Introduction:

Eagle's syndrome symptoms may include facial pain, ear pain, dysphagia, voice change and a globus sensation that may cause frequent swallowing—these occurs secondary to elongation of styloid process—resulting compression and irritation of adjacent structures. In 1937 Watt W. Eagle coined the term stylalgia to describe the pain associated with this abnormality¹. Later Eagle described two types of the syndrome that come to bear his name (i) classic type

and (ii) carotid artery type. We found a big lacuna in world literature regarding data on stylalgia. Most of the authors have seen few cases each²⁻⁴. It is a rare disease and mostly under diagnosed⁵. Normal length of styloid process is 25-30mm⁶⁻⁹, in about 4% of population it is enlarged¹⁰. But not in all cases of enlarged styloid there is stylalgia.

The diagnosis of stylalgia is clinical³. In a patient of suspected stylalgia, the clinical diagnosis is certain, if the enlarged styloid process is palpated through the the tonsillar fossa¹¹. Pain and symptoms can be reproduced with pressure over the enlarged styloid. We accidentally fractured the styloid process of one lady suffering from stylalgia, whose slender styloid process got fractured during the process of routine palpation. This encouraged us to conduct this study in hospital OPD. As it has been stated earlier, this study started with total relief of symptoms in a stylalgia patient instantaneously after incidental fracture of enlarged styloid process of the same side during routine clinical palpation. Encouraged with this we started our study.

Symptomatic patients with enlarged and palpable styloid process were included. Most of the patients were not diagnosed properly and were being treated as cases of chronic pharyngitis, globus pharyngis etc. by other doctors.

As the diagnosis of Eagle's syndrome is clinical^{3, 11} and the clinical diagnosis can be confirmed by reproducing symptoms on palpation of enlarged styloid, we did not do any extra investigation for diagnosis. The OPD in SSKM hospital, Kolkata is overburdened with average 500 patients everyday, for this reason from the very beginning we planned the study fully in-office setting, like we do in cases of BPPV. We didn't make any lab investigation mandatory.

Methods:

This study followed the Declaration of Helsinki on medical protocol and ethics and the regional Ethical Review Board of SSKM Hospital, Kolkata approved the study. We screened patients with symptoms suggestive of stylalgia or Eagle's syndrome. Most of them were being treated with medicines for chronic pharyngitis, globus pharyngis, vague earache, and facial pain for variable duration without any long term benefits. We palpated their tonsillar fossae bimanually in sitting position for styloid process. Those with enlarged and palpable styloid of the same involved side with reproduction of pain upon pressure were diagnosed as stylalgia as a clinical diagnosis. We divided styloid enlargement into three grading clinically, grade 1- when tip of the styloid is felt at the upper pole of tonsillar fossae. Grade 2 – when tip of styloid reaches around the middle of tonsillar fossa and grade 3- when tip of the styloid reaches the lower pole and into the base of the tongue. Then in the same sitting position we started our maneuver. This is a bimanual maneuver with one hand giving support to the head and neck from outside covering the area of auricle, angle of mandible, mastoid and upper neck, and the index figure of the other hand is introduced to the tonsillar fossa of the involved side against the external support. The styloid was palpated as high as possible from its tip and the index figure was fixed there. at this point the styloid can be best palpated and fixed at different head positions from slight flexed to slight extension depending upon its medial angulations—which can vary from patient to patient and can be judged clinically by palpating in different positions. Neck should be also bended laterally to the same side upon the external hand slightly. In this position with head fixed and index figure on styloid, moderate pressure was applied to the styloid with index figure. The direction was

being towards up, behind and laterally with an effort to fracture the styloid process.

If the styloid gets fractured, a click can be felt and resistance is lost. Once failed the same maneuver repeated 2-3 times with little gap for time for the patient to relax. In cases, styloid is thick and stout enough to resist fracture with moderate pressure, the procedure was abandoned and the patient was selected for other modality, either long term medicines or surgery.

In some uncooperative and much apprehensive patients, surface anesthesia with 10% lignocaine can be used but we did not use it strategically as it masks pharyngeal symptoms and a false sense of wellbeing may be produced. It also makes the pharyngeal mucosa dry and makes swallowing difficult.

Patients were asked to take rest and were observed 1/2hour after successful maneuver. If patients complained of increased pain, they were given analgesics for 5 to 7 days; others were given analgesics as and when required basis. Patients were followed for 6 to 12 months. During the study period total 36 cases with enlarged and symptomatic styloid process presenting randomly in our outpatient department(OPD) were included in our study but later 4 cases were excluded as their styloid process were too thick to be fractured clinically and the procedure was abandoned for them. Among these 36 cases 7 (19.4%) were male and 29(80.6%) were females.

Results:

Among those 32 cases, actually in whom styloid fracture were done clinically, male were 4 (12.5%), and 28(77.5%) were female.

Among those 4 cases whose styloid could not be fractured clinically, 3(75%) were male and only one female. we found male styloid thicker, stouter and harder clinically.

Table-I
Age distribution.

| Age group | Numbers |
|-------------|---------|
| 30 -39 yrs | 5 |
| 40 – 49 yrs | 17 |
| 50-59yrs | 11 |
| 60-69 | 3 |
| Total | 36 |

There were 22 nos. (61.1%) of cases with bilateral styloid enlargement. but among them 13(36.1%) cases were having symptomatic bilaterally.

Table-II
Grade of enlargement.

| Grade | Numbers | Percentage |
|---------|---------|------------|
| Grade 1 | 11 | 30.5% |
| Grade 2 | 22 | 61% |
| Grade 3 | 3 | 8.4% |
| Total | 36 | 100% |

Table-III
Improvement after the maneuver during follow-up.

| Duration after maneuver | Totally symptom free | Considerable improvement | No improvement |
|-------------------------|----------------------|--------------------------|----------------|
| 1 hour | 10 (31.25%) | 13(40.6%) | 9(28.1%) |
| 1 week | 15(46.9%) | 10(31.25%) | 7(21.8%) |
| 2 week | 22(68.8%) | 6(18.75%) | 4(12.5%) |
| 1 month | 26(81.25%) | 3(9.4%) | 3(9.4%) |
| 6 month | 24(75%) | 5(15.6%) | 3(9.4%) |

No major complication was noted in any patient except mild to moderate pain after the maneuver for which analgesics according to need were sufficient.

Discussion:

Normal length of styloid process is 25 to 30 mm^{1, 2, 5, 7} but range can be from 1.5 to 4.77 cm⁷. Incidence of elongation of styloid or ossification of stylomandibular ligament is variable according to different authors, most of the time the incidence range is 4 to 7% among population^{1, 6, 8}. Incidence can be as high as 30 %. In this study we found most of our patients are within 40-60 years of age (77.7%) (28 nos). Verma et al¹ found 72% of his cases were more than 35 years old. Almost every study found this to be a problem of persons of 4th decade or older^{3, 1} and females were found to be mostly affected in a range of 65 to 85%^{1, 3, 10}. We also found that females comprised almost four fifth of total cases of our study.

61.1% of our cases had bilateral styloid enlargement, but actually 36.1% had bilateral symptoms, so we found that not every case of enlarged styloid is symptomatic. Verma et al¹ found 67% cases with bilateral enlargement. He also reported a very useful method of clinical grading and documentation of styloid enlargement depending upon the degree of styloid enlargement into the tonsillar fossa and the base of the tongue. We also adopted this method in our study and found most of the time it is in grade II, Verma et al reported grade II enlargement among 54% of their cases.

From the very beginning of our study we considered this method as an in office clinical maneuver, like Epley's done in case of BPPV. For this reason we did not make any specific lab investigation mandatory. We diagnosed stylalgia clinically, as stated in other studies¹¹ and applied our maneuver for symptom relief and to avoid surgery and recurrent long term medications.

Almost every study states, with conservative medication for a variable period, considerable

nos. of patients can improve, failing which surgery can be considered, and surgery is mostly considered the best management^{3-6, 9, 11}. Analgesics, steroids, antidepressants, neuroleptic, antipsychotic, antihistaminic, antiepileptic, muscle relaxants etc.³ are used in solo or in different combinations for a considerable period of varying length as a chronic therapy. The main drawbacks of conservative therapy are, it has to be used for a considerably long duration and it is not efficient enough because symptoms recurred most of the time after a variable period of stopping therapy³.

Surgery can be performed via trans-tonsillar or via external approach. But trans-tonsillar approach is preferred by most authors due to less morbidity, technical ease and fewer complications.

In our study most of our patients had their symptoms for a variable duration ranging from 6 months to 7 years and most of them were treated by different doctors conservatively as chronic tonsillitis, GERD, vague throat discomfort etc. initially we had 36 cases with stylalgia, among them 4 cases had enlarged styloid so thick that they were resistant to digital fracture clinically. Those 4 cases were taken for surgery. among these four cases 3 (75%) were male. we found male styloid were more tougher and harder than that of females. we were able to fracture enlarged and symptomatic styloid in OPD in 32 cases. among them after initial 1 hr. observation after the maneuver, 10 (31%) had complete of their symptoms and also 13 (40.6%) cases had considerable improvement of their symptoms within 1 hour, but 9 cases felt no improvement. we count 'considerable improvement' as per patient's feeling of gross symptom relief with very mild persisting symptoms. we followed up our patients after, 1 week, 2 week, 1 month and 6 months. After 1 month, 26 had complete symptoms relief, 3 had

considerable improvement and 3 had felt no improvement. But after 6 months of follow-up in 2 cases, symptoms were relieved completely, but developed symptoms with much lesser intensity. We did not find any study regarding routine in-office digital fracture of enlarged and symptomatic styloid. But most of the studies in literature points surgical removal or shortening of styloid as the definitive and best management of stylalgia^{9, 11}. Albinas Gervickas et al³ had 31% cases who required surgery with 86.6% success. SP Yadav et al⁹ used dilatation and curettage method for styloidectomy through trans tonsillar route. 40 cases operated, 31 (77.5%) symptom free, 5 (12.5%) considerable improvement, 4 (10%) no improvement. We have seen in our study that with this simple and effective OPD maneuver we can give results almost equivalent to surgery (total symptom relief in 75%, considerable improvement in 15.6% - after 6 months follow up) with failure in 9.4% which is very acceptable comparing data in other literatures.

Conclusion:

Using this simple in office procedure we were able to avoid long term medicines, recurrent investigations. By giving relief we could avoid surgeries in large majority of cases, making the already over burdened theater available to other patients and also cutting preoperative investigations. Thus we can cut the burden of health care for such chronic cases. This needs future study in details.

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