

Clinical Efficacy Of Silicone Tube Intubation In External Dacryocystorhinostomy Surgery In Doda District Of Jammu And Kashmir

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ABSTRACT

- **Aim and Objective:** To compare the outcome of external dacryocystorhinostomy surgery with and without silicone intubation.
- **Material and Methods:** a hospital based prospective study in which 200 external DCR surgeries were done, of which 100 were with silicone tube intubation and 100 without silicone intubation. Follow up was done at one week, six weeks and six months after surgery. The surgical success was accepted as patency of the lacrimal passage with syringing.
- **Results:** Among those treated with silicone intubation, only 4 patients (96% success rate) had recurrence of symptoms and non patent passage on syringing, whereas 11 patients (89% success rate) among those treated without silicone tube had non patent passage and recurrence of symptoms
- **Conclusion:** Success rate was higher with silicone tube intubation the without silicone intubation, although the difference was not statistically significant.

Keywords: Nasolacrimal duct obstruction, silicone tube, dacryocystorhinostomy

INTRODUCTION

The commonest cause of epiphora and/or discharge is Nasolacrimal Duct Obstruction which may be congenital or acquired. The acquired obstruction may be primary and secondary, with primary being the most common. The primary or idiopathic acquired nasolacrimal duct obstruction (PANDO) is defined as a clinical syndrome of complete nasolacrimal duct obstruction without other lacrimal excretory system pathology¹. The distal obstruction causes stagnation of lacrimal secretion which may promote bacterial colonization and lacrimal sac infection. DCR surgery first introduced by Toti² is the standard treatment for blockage of Nasolacrimal Duct System. The success rate of External DCR ranges from 85 to 99% in patients with nasolacrimal duct obstruction^{3,4}. Failure may occurs mainly due to poor surgical technique, intranasal adhesions, fibrous obstruction at common canaliculus, closure of osteotomy and fall of mucosal flap⁵. Placement of stents at the site of osteotomy are thought to increase the success of the procedure^{6,7} as it serves to maintain the patency of the osteotomy site, although it has been a controversial issue. The silicone is inert and easily tolerable for prolonged duration⁸.

MATERIALS AND METHOD

The prospective comparative study was conducted in District Hospital Doda, Jammu and Kashmir from march 2017 to march 2020. A total of 200 patients with obstruction distal to the common canaliculus were taken for external Dacryocystorhinostomy surgery out of which 100 were done with silicone tube intubation and 100 without silicone tube intubation. Patients with acute dacryocystitis, lacrimal abscess, stenosed puncta, blocked canaliculi and bony deformity of nose and grossly deviated nasal septum were excluded. Standard external DCR was performed under local anesthesia. A curvilinear incision of about 10-12mm in length, 3-4mm from medial canthus along the nasojugal fold was made and blunt dissection was performed to separate orbicularis oculi until the periosteum of the anterior lacrimal crest, which was elevated to expose the lacrimal sac fossa. The sac was separated from the fossa with blunt dissection. An osteotomy of 1-1.5cm was made using Kerrison bone punch. Lacrimal sac and nasal mucosa were incised and silicone tube was inserted through upper and lower puncta, passed through the osteotomy and retrieved through the nose. The ends of the tube were tied together and the remaining end was cut short so that the tube did not prolapse out of nose. Suturing of anterior flaps of lacrimal sac and nasal mucosa was done with 4-0 vicryl. The surgical incision was sutured in 2 layers. A nasal pack was left in nose for 24hours to attain haemostasis. The first follow up done after 24 hours and irrigation of lacrimal passage was done to ascertain the patency of the newly formed ostium and to wash out any blood clots and debris in the passage. Patients were then followed up at 1 week, 6 weeks and 6 months. The silicone tubes were removed after 6 weeks of surgery. Successful outcome was defined as resolution of epiphora and discharge, and patency of the passage on lacrimal irrigation.

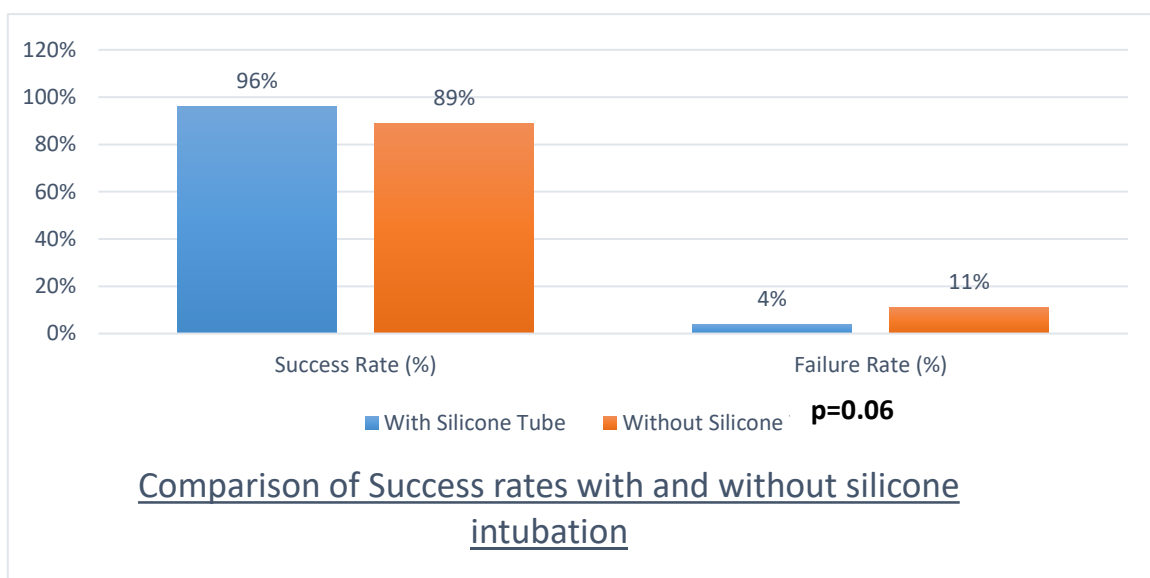
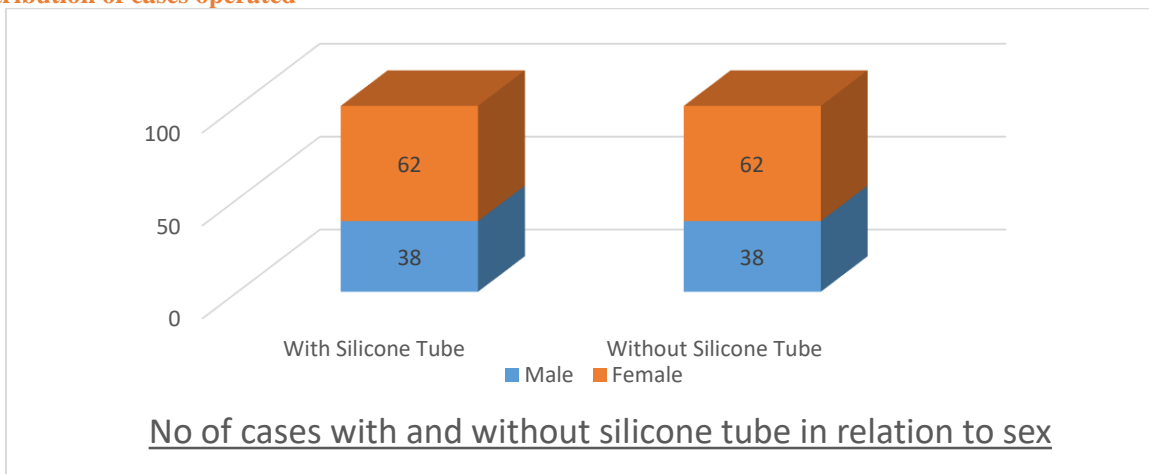
RESULTS

In total, 200 External DCR surgeries were done out of which 100 were done with silicone stenting and 100 without silicone stenting. The patients, 124 females (62%) and 76 male (38%), ranged in the age group from 13 years to 78 years, mean age (48.4 years). Successful outcome was indicated by symptom free interval of 6 months. Among those treated with silicone intubation, only 4 patients (96% success rate) had recurrence of symptoms and non patent passage on syringing, whereas 11 patients (89% success rate) among those treated without silicone tube had non patent passage and recurrence of symptoms, with p-value (p-0.06).

Age	13-20 years	21-30 years	31-40 years	41-50 years	51-60 years	61-70 years	71-80 years

No of cases	8	29	35	37	32	39	20
%age of the total cases	4%	14.5%	17.5%	18.5%	16%	19.5%	10%

Chart: Age distribution of cases operated



DISCUSSION

The purpose of our study was to evaluate the clinical outcome of nasolacrimal duct obstruction treated with bicanalicular silicone intubation stenting. In our study the Obstruction was more common in females and in advanced age which was comparable with the other studies⁹. The success rate of Dacryocystorhinostomy with silicone intubation was 96%. The purpose of putting silicone tube stent in the nasolacrimal system is to prevent adhesions of the mucosal lining of the channels during the healing process and to maintain long term patency after removal. In year 2016 and 2017, Mohd Ayaz Bhat et al.⁹ operated 223 patients for nasolacrimal duct obstruction. 70 patients were operated with silicone tube intubation and 153 without silicone tube. They had a success rate of 94.24% with silicone tube and 86.92% without silicone intubation although the results were not statistically significant. Ravi Dhar Bhandari et al.¹⁰ in a retrospective study at Geeta Eye Hospital, Nepal analyzed 87 patients for dacryocystorhinostomy surgery out of which 49 were with silicone intubation and 38 without silicone intubation. On three months of follow up, 89.7% with silicone tube had patent duct whereas 87.9% without silicone intubation had patent ducts. The failure rate was 10.3% with silicone tube and 12.1% without silicone tube. Delaney and Khooshabeh¹¹ reported a success rate of 90% out of 50 cases with acquired partial nasolacrimal duct obstruction in adults, treated by dacryocystorhinostomy with silicone intubation. Advani et al.¹² reported success rate of 95% in 40 dacryocystorhinostomies with silicone intubation.

CONCLUSION:

External dacryocystorhinostomy is a successful procedure for Nasolacrimal duct obstruction. It can be done with or without silicone intubation. Success rate are higher with silicone tube intubation than without intubation, although the differences in success rates are not statistically significant.

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