

BACKGROUND

Ear tubes inserted for recurrent acute otitis media and chronic otitis media with effusion can be complicated by persistent otorrhea postoperatively. The prevalence of postoperative otorrhea 3-74%.

Otorrhea can block the ear tube, making it ineffective in ventilating the middle ear or improving hearing. There are a range of treatments used perioperatively and postoperatively. Our institution previously used ofloxacin 3 drops TID for 3 days for all patients except for those acutely infected.

The American Academy of Otolaryngology (AAO) recently recommended against routine prescription of postoperative antibiotic drops, instead suggesting a single middle ear washout with normal saline at the time of surgery.

AIM STATEMENT

Otolaryngology residents will develop a new algorithm guiding postoperative bilateral myringotomy and tube placement (BMT) antibiotic drop prescriptions that will reflect the new AAO guidelines. We aim to decrease the rate of prescribing antibiotic drops by 30%.

MUSC Pillar: Quality- increase ambulatory care composite

METHODS

A new algorithm was developed by residents, the pediatric ENT fellow, and attendings. Once agreed upon, this algorithm was placed into clinical practice November 1, 2022.

Data was extracted from the EMR beginning February 1, 2023, on incidence of antibiotic drops prescription, otorrhea, and clogged ear tubes.

Data was analyzed using in SAS using summary statistics and chi-squared tests.

RESULTS

Table 1. Summary Statistics

	Number	Percent
Total Patients	76	
Drops	38	50%
Clogs	5	6.58%
Otorrhea	17	22.37%
Additional Procedures	25	32.89%
Number of Attendings	4	

Note: Describes the total number of patients who fell into each category.

Table 2. Relationship Between Drop Use and Key Variables of Interest

	Number	Percent	Chi-Square	P-Value	Odds Ratio
Model 1: Drops vs Clogs			0.21	0.64	0.65
Drops and clogged	2	2.6%			
Drops and not clogged	36	47.4%			
No drops and clogged	3	3.9%			
No drops and not clogged	35	46.1%			
Model 2: Drops vs Otorrhea			0.68	0.41	1.58
Drops and Otorrhea	10	13.2%			
Drops and no Otorrhea	28	36.8%			
No drops and Otorrhea	7	9.2%			
No drops and no Otorrhea	31	40.8%			
Model 3: Drops vs Procedures			0.54	0.46	1.43
Drops and additional op	14	18.4%			
Drops and no additional op	24	31.6%			
No drops and additional op	11	14.5%			
No drops and no additional op	27	35.5%			

Note: Each model compares drop use to a variable of interest to determine whether a statistically significant correlation exists.

CONCLUSIONS

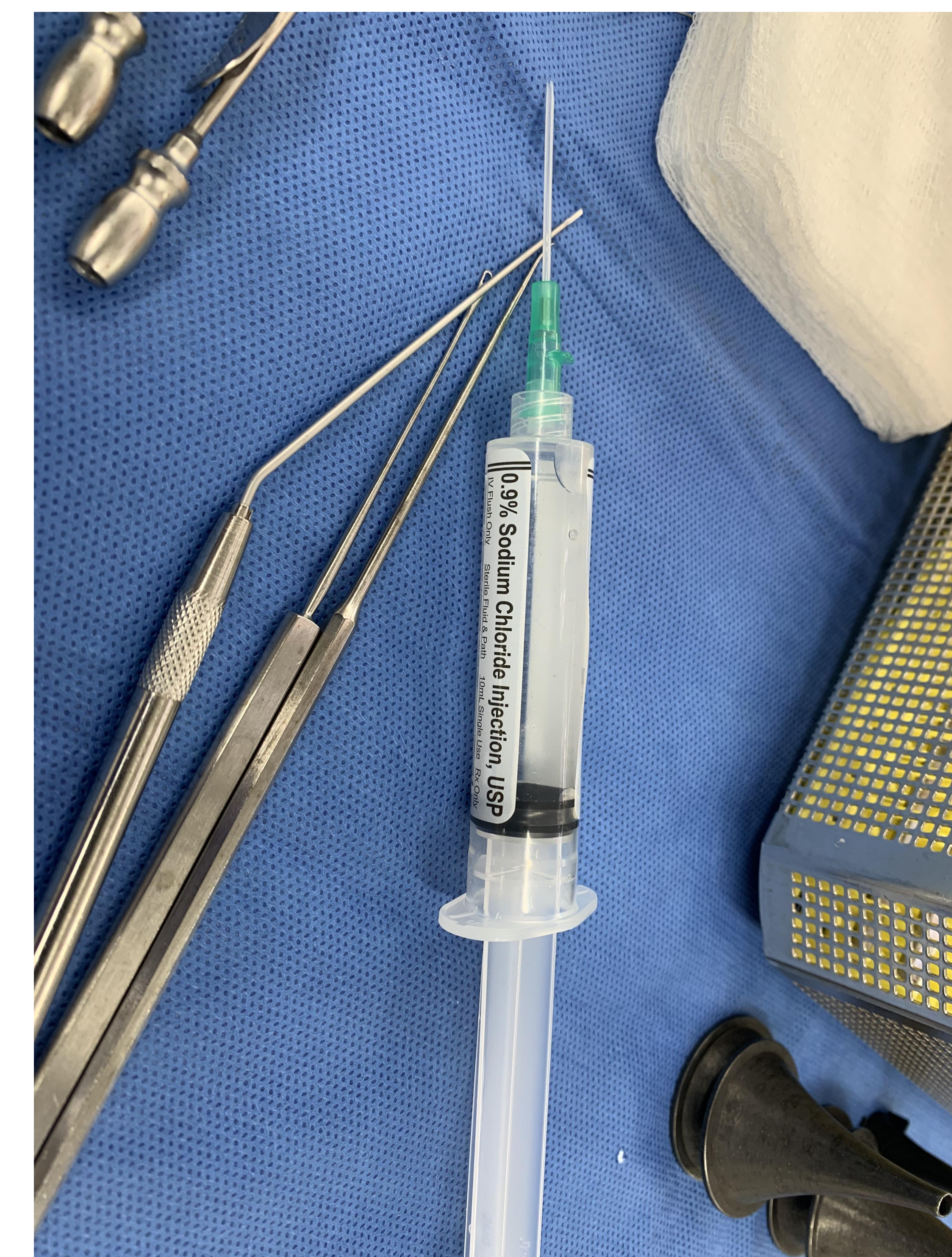
A new algorithm for postoperative BMT antibiotic ear drops was developed based on the best available literature and AAO guidelines. The new algorithm sought to prevent unnecessary prescribing but also to ensure patients at high risk of postoperative otorrhea continued to receive antibiotic drops prescriptions postoperatively.

Instituting the new algorithm resulted in a 50% decrease in prescribing antibiotic ear drops following pediatric BMT.

The rate of postoperative otorrhea was positively associated with drops whereas the rate of clogged tubes was negatively associated with drops. However, neither of these relationships are statistically significant.

The results are limited by the small size of the dataset. Whether or not to continue the new practice or amend our algorithm should be based on findings of large multi-institutional studies.

Figure 1. Middle Ear Irrigation Setup



REFERENCES

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