

EDITORIAL

VINEGAR IN CHRONIC OTITIS EXTERNA AND MYRINGITIS

Abstract : Role of Vinegar in medicine is known from ancient time, specifically for dressing of wounds. A prospective study of vinegar (4% acetic acid with 1:1 ratio of normal saline and vinegar 4% with 1:1 ratio of 95% isopropyl alcohol) was conducted to conclude its role in chronic otitis externa and myringitis. Vinegar with saline was effective in 45.52% otitis externa, 54.47% in otomycosis and 81.03% in myringitis while vinegar with alcohol was 90.62% effective in swimmer's ear.

Key words : Vinegar, acetic acid, otitis externa, myringitis, post-operative mastoid cavity.

INTRODUCTION

The vinegar alone or in combination with hydrogen Peroxide has been used in cleaning of debris of the ear. More often in cases of post operative mastoid cavity due to its anti microbial property and its acidic PH, it has been widely used in dressing and in ear infection^{1,3}, specifically to prevent or treat gram negative (pseudomonas) infection. The disadvantage of vinegar in ear is irritation of canal, pain and sometimes dizziness. The role of weak acetic acid in treatment of seborrhoea of scalp or dandruff is a household remedy, in this study we have made an attempt to compare the use of vinegar with saline and vinegar with alcohol in conditions of external ear, otitis externa of various etiology including myringitis excluding all conditions where there is perforation or suspected perforation of Tympanic membrane.

MATERIAL AND METHOD

A prospective study was conducted from Jan. 2007 to Dec. 2009 in out patient of Indian Institute Of Ear Diseases. A total of 1686 patients were registered in study since being a paid clinic and all were out patients, only 1234 patient completed the study. The patients were divided in three groups. Group A containing antibiotic or antifungal ear drops along with dry mopping. In group B patients were put on 4% vinegar with 1:1 normal saline and in group C on 4% vinegar with 1:1, isopropyl alcohol 95%.

The patient complaining of ear discharge, pain, itching or post operative cavity problem were included in the study, age and sex criteria was no bar, history of diabetes or other illness was noted in all cases. Three to four drops of antibiotic/solution was installed in the ear four to six times a day with instruction to keep the

affected ear up for 2 minute to the drug to act. Patient was evaluated after every three days for two weeks. Those improved were advised to further weekly followup for four weeks and the patient not responding to drug/solution were put on oral antibiotic, antifungal or antiallergic as required in individual case.

OBSERVATION AND RESULT

A total of 1234 patient were included in the study and out of which 748 were male rest 486 were female. Age varying from 6 years to 82 years as shown in table I.

Age	Male		Female		Total	
	No.	%	No.	%	No.	%
6-10 years	69	5.75	51	4.25	120	10.00
10-25 years	103	8.58	74	6.166	177	14.75
25-40 years	157	13.08	104	8.66	261	21.75
40-60 years	385	32.08	228	19	613	17.75
60 years onwards	34	2.83	29	2.41	63	5.25
Total	748		486		1234	

Table-I : Age and Sex Distribution

The chief complaint was itching, pain and discharge from ear (269) followed by pain and discharge (236). Itching with scanty discharge was observed in (201), post operative cavity problem as recurrent discharge was noted in (229) and post swimming itching in (75) cases and clinical diagnosis was acute otitis externa (281), chronic otitis externa (217), otomycosis (318) myringitis (116), post operative mastoid cavity in 229.

Pus culture and sensitivity was done only in selected cases not responding to any ear drops in two weeks duration. The expected result was freedom from itching, or pus that is dry ear and finally a epithelised tympanic membrane, or mastoid cavity. In cases of otomycosis or swimmers ear regression in chronic congestion and/or bogginess of external auditory canal.

No response was seen in 701, (56.8%) cases which were put on antibiotic antifungal and or corticosteroids as and when required.

DISCUSSION

In our Socio-economic condition when patient refrain from taking expert opinion and opt for household remedies like lukewarm mustard oil with garlic, neem extract and so many other household products apart from buying the antibiotic ear drops by the sale counter of chemist shop, economical substitute is worth trying.

The role of vinegar is known from historical time and even some of the otologists including author is using it for care of post-operative mastoid cavity. Though the side effect of vinegar by absorption through the round window could not be traced in literature, but if the middle ear mucosa is infected the round window membrane also becomes thick and non permeable may be the reason the ototoxicity of aminoglycoside is rarely reported in literature in discharging ears. In grossly purulent ears to clean the debris 1:1 vinegar with saline may be used even in cases of perforated tympanic membrane (safe and

Symptom	Group A		Group B		Group C		Total	
	No.	%	No.	%	No.	%	No.	%
Itching	274	22.83	301	25.08	281	23.41	856	71.33
Pus	231	19.25	268	22.33	252	21.00	757	63.08
Pain	143	11.91	116	9.66	78	6.50	337	28.08
Bogginess of Canal	19	1.58	24	2.00	39	3.25	82	6.80

Table-II : Presenting symptoms in different groups

Clinical Diagnosis	Group A			Group B			Group C		
	No. of Patients	Cured	%	No. of Patients	Cured	%	No. of Patients	Cured	%
Acute Otitis Externa (281)	107	83	77.50	123	56	45.52	51	19	37.25
Chronic Otitis Externa (217)	59	31	52.54	84	63	75.00	64	27	42.18
Otomycosis (318)	102	73	71.56	134	79	54.47	82	16	19.51
Myringitis (116)	43	29	67.44	58	47	81.03	15	0	0.00
Post Operative Cavity Mastoid Cavity (229)	72	33	45.83	88	74	84.09	69	28	40.57
Swimming Ear (75)	14	5	35.71	29	9	31.03	32	29	90.62

Table-III : Clinical diagnosis and success rate

unsafe CSOM) but this study was conducted when no perforation was there. Only 8% patients complained of warmth and discomfort initially by vinegar with saline group and 19% in vinegar with 95% Isopropyl Alcohol. The overall response was much better with isopropyl alcohol in ear where there was not a breach in epithelium that is in swimmers ear. Van Balen has observed upto 61.5% response in otitis externa in three weeks duration and recurrence was unlikely⁴.

Author has observed a success rate with antibiotics in 67.44% in myringitis and with vinegar with saline in 81.03% cases. While Jung et al. has observed 60% success rate with antibiotics (Ofloxacin) and 80% with vinegar 2% and all patients tolerated the vinegar reasonably. Author has observed response in otitis externa 45.52%, Myringitis 81.03%, Post operative mastoid cavity 84.09% while Somayal et al has observed a success rate in otitis externa 53.6%, Otomycosis in 50% and Myringitis 85.7% and post operative mastoid cavity in 92.3% cases⁵.

Various combination of tropical agents vinegar with saline, vinegar with hydrogen peroxide, 2% acetic acid with aluminium acetate⁶, Burrow's solution (13% aluminium acetate) Povidine iodine 10%, 5%, 2% and boric acid and 95% isopropyl alcohol, antibiotic powder, 5% salicylic acid, 95%

boric acid powder have been used and even Hippocrates has used vinegar with honey to treat chest infection⁷. In JAMA, Dr. Irving, L. Ochs of Annapolis, Maryland also concluded that using vinegar is an effective, available and inexpensive way to control external otitis. This treatment is now standard for otitis externa when it is caused by Pseudomonas, Candida, or Aspergillus⁸.

Acetic acid (vinegar) being a weak acid it takes care of granulation by cauterization and having its antimicrobial property leads to epithelised cavity perhaps by preventing re-growth of bacteria by maintaining low pH of ear canal. Apart from the discomfort burning sensation of Isopropyl alcohol its results was better in swimmer ear and in rest of the cases response was better with vinegar with saline. The result was worst in myringitis while using a combination of alcohol & vinegar leading to pain and profuse mucoid discharge.

CONCLUSION

Vinegar and normal saline 1:1 ratio may be used to take care of the mastoid cavity and otitis externa of varied etiology and is worth trying as a household remedy when no perforation of tympanic membrane is suspected. Vinegar with isopropyl alcohol gives extremely good result in swimmer's ear.

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