International Journal of Early Childhood Special Education (INT-JECSE)
DOI:10.9756/INTJECSE/V14I5.522 ISSN: 1308-5581 Vol 14, Issue 05 2022

A Case Report On 75-Year-Old Male withMalignant Otitis Externa and Grade-4 Facial Nerve Palsy

Ms. Bhagyashree Ganeshpure[1], Roshan Umate[3,] Kavita Gomase[4]

.

1] Ms. Bhagyashree Ganeshpure* Nursing Tutor, Florence Nightingale Training College Of Nursing, Datta Meghe Institute of Medical Sciences, Sawangi (M), Wardha, India.
Email: bhagyashree1706@gmail.com ; Mob. No. 8805297654
2] Research Consultant, Department of Research and Development, Jawaharlal Nehru Medical College, Datta Meghe Institute of Medical Sciences, Wardha. Email: roshanumate111@gmail.com
3]Department of Obstretics-Gynaecology Nursing, Smt. RadhikabaiMeghe Memorial College of Nursing, Datta Meghe Institute of Medical Sciences, Sawangi, Wardha, Maharashtra.

ABSTRACT:
Malignant otitis externa (MOE) is a life-threatening invasive infection of the external auditory canal and lateral skull base that is unusual and rapidly progressing. Toulmouche is credited with being the first to describe this ailment. It's an infection that causes damage to the ear canal bones and the skull's base. The condition is linked to significant cranial nerve involvement and a high death and morbidity rate. The facial nerve is most usually damaged**.** A 75-year-old male reported to our hospital in the ENT ward with the chief complaint of right ear discharge and right-sided facial weakness for 15 days now. He has come to a tertiary care rural hospital for further treatment. After history collection and physical examination, the doctor diagnosed the case of right-sided malignant otitis externa with right-sided grade 4 facial nerve palsy. Surgical correction was done. Medical treatment included administration of Inj. ceftriaxone + sulbactam 1.5 mg bd, inj. Gentamycin 80 mg bd, inj. INJ. Metrogyl 100 ml iv TDS, inj. pan 40 mg iv bd, inj. Dexa 8 mg bd, inj. Neomol 100ml TDS iv, tab. Chymoral forte TDSBetadine, tab. Zerodol sp bd, tab. Neurobion forte od, tab. Amlo. 5mg od, tab. Elriz XL HS, tab. Limcee 500 mg od, Betadine gargles E/D 4-otobiotic plus two drops of TDS mg, E/D quin bd in the right ear, E/D refresh six times, E/D gel bd, Eye padding at night, galvanic stimulation od. He responded to both medicine and physician counseling. The outcomes were quite favourable.

Keywords: MalignantOtitis Externa,Facial Nerve Palsy ,facial paralysis, mastoid exploration

INTRODUCTION:

Malignant otitis externa (MOE) is a life-threatening inflammatory condition that affects the external auditory canal, temporal bone, and skull base. [1] Cranial nerve involvement and a significant mortality and morbidity rate are associated with the condition. [2] The most isolated bacteria is Pseudomonas aeruginosa, which primarily affects people with diabetes, the elderly, and immunocompromised people. The principal mechanism is that pathogen-produced poisons directly affect the nerve. 3. A common and well-known consequence is facial nerve palsy. [4]

Infection may migrate to the base of the skull through Santorini fissures, causing bone damage before spreading medially and causing facial palsy. [5] Antimicrobials are the backbone of therapy for malignant external otitis, and systemic anti-pseudomonal antibiotics are used to treat it. It also entails stringent diabetes control and monitoring with radiologic procedures. [6]

Following up with patients for at least a year after treatment is critical. Surgical therapy is advised in cases of refractory malignant otitis externa with facial nerve affection. [7]

Toulmouche recorded the first case of malignant otitis externa in 1838, and Chandler defined it as "malignant otitis externa" in 1968 due to the high death rate at the time.[8]Males are more likely than females to be afflicted. Although malignant otitis externa has been observed in people of all ages, it is most common in people over 60. [9]MOE is a severe but rare cranial nerve disorder. Before introducing systemic medicine, the disease's death rate was around 50%, with recurrences being common. With the introduction of fluoroquinolones, the cure rate has improved to 90 percent.[10]

Patient information:
A 75-year-old male patientwas admitted in the ENT ward with complaints of right-sided ear discharge with facial weakness since 15 daysand dryness eye for two days. Now he has come to our hospital for further treatment of that.Primary concern and symptoms: The patient was alright 15 days ago when he started complaining of right ear discharge that was insidious in onset, progressive in nature, moderate in quantity, non-blood-stained and foul-smelling, and followed an episode of URTI. Complaint of right-sided facial weakness, insidious in onset, progressive in nature, inability to close eyes, deviation of angle of mouth. They were associated with inability from the chew food and drooling from the right side, unable to close the right eye for 15 days, and reduced hearing in the right ear. He was admittedto the ENT ward in our hospital for further management and after history collection and physical examination. Based on the investigation, the doctor diagnosed the case with Right Side Malignant Otitis Externa with Right Side Grade 4 Facial Nerve Palsy and mastoid exploration under GA.
His previous right lower limb surgery hospitalization post-RTA was a month back. He has also known a case of HTN for two years on the tab. Amlodipine 5 mg OD. Family history is not significant. A patient takes a mixed diet bladder, and bowel habits are regular.He has positive interpersonal interactions with his family members but appears worried and unhappy. The habit of chronickharra chewing for 20 years and bidding for 20 years

Physical examination and clinical findings:
The patient was awake, cooperative, and well-oriented to time, location, and person during the physical examination. He appears anxious and unhappy, is cyanosed, dehydrated, and febrile, and while all vital indicators are normal and his nutritional condition is typical, he lacks basic hygiene.The nutritional status of the patient was average. He had a BMI of 27.43 kilograms per square meter. His neurological, chest and abdominal examinations revealed nothing abnormal. Asymmetry of the face Local examination: right-left preauricular and post auricular and tragal tenderness present, mastoid tenderness absent, ear white discharge present, polypoidal mass over the floor left normal, and TM right posterior inferior granulation tissue positive, thickened TM, loss of cone of light left intact and retracted facial nerve right side eye closure: incompletes closure of eyes on maximal effort loss of right nasolabial crease unable to hold on to blowing cheeks deviation of angle of the mouth at rest Right-sided grade IV facial nerve palsy, external deformity absent, mouth opening adequate, lip normal, throat clear.
The patient was alright 15 days ago when he started complaining of right ear discharge that was insidious in onset, progressive in nature, moderate in quantity, non-blood-stained, non-foul-smelling and followed an episode of URTI. The patient also complained of a left-sided generalized headache and earache, of dull aching, throbbing type, radiating to the neck and occipital region; right-sided facial weakness, insidious in onset, progressive in nature; inability to close eyes; and deviation of angle of mouth. This is associated with the inability to chew food, drooling from the right side, inability to close the right eye for 15 days, and reduced hearing in the right ear and Then he was admitted to the ENT ward in tertiary care rural hospital for further management and, after history collection and physical examination, based on investigation, the doctor diagnosed the case of Right Side Malignant Otitis Externa With Right Side Grade 4 Facial Nerve Palsy with mastoid exploration under GA.

Investigations:
All the routine and necessary test was done, such as Blood test, urine test report:137 mg percent random blood sugar.Microbiology report of right ear dischargeshowed growth of pseudomonas species, ECG, and Chest Ray were normal. CT scan of temporal bone revealed bilateral ear fluid attenuation in the middle ear cavity with loss of pneumatisation of the mastoid air cells, no erosion of scutum, sinus plate, tegmental plate; middle ear ossicles are normal.

Diagnosis:
The doctor diagnosed a case of Right Side Malignant Otitis Externa With Right Side Grade 4 Facial Nerve Palsy after a physical and local examination and investigation.
Prognosis: Prognosis was satisfactoryin this case.

Therapeutic intervention:
The patient was given medical attention. The patient's initial treatment consisted of intravenous normalsign" saline to rectify dehydration. Vital sign monitoring.H"Vitale was taken Inj. ceftriaxone +sulbactam 1.5 mg bd, inj. Gentamycin 80 mg bd,Inj. Metrogyl 100 ml iv TDS, inj. pan 40 mg iv bd , inj. Dexa 8 mg bd, inj. Neomol 100ml tds

iv, tab. Chymoral forte TDS, tab. Zerodol sp BD, tab. Neurobion forte OD, tab. Amlo. 5mg od, tab. Elriz XL Hs, tab. E/D 4 otobiotic plus 2 drops TDS, E/D quin bd in the right ear, E/D refresh six times, E/D Lacryl gel bd, Eye padding at night, galvanic stimulation od. Advised facial expression and galvanic stimulation to facial trunk and muscles dailyby physiotherapist.

Discussion:

A 75-year-old male was admitted to our hospital in the ENT department with a complaint of right ear discharge and right-sided facial paralysis for 15 days. After taking his medical history and performing a physical examination, the doctor diagnosed him with right-sided malignant otitis externa with right-sided grade-4 facial nerve palsy and scheduled his mastoid exploration under general anesthesia.

According to Franco-Vidal et al., 20 percent of 46 patients showed facial nerve involvement.[11] According to Stevens etal. a severe type of MOE is defined by facial nerve palsy, which is linked to higher mortality. When compared to patients who were not affected, 15.5 percent of patients had facial nerve involvement (palsy or paresis), which was linked with a considerably longer mean LOS of 12.9–19.6 days.[12]

Earache is the most common symptom of MOE, according to Bhat et al., while ear discharge is the second most common symptom. Polyps in the external auditory canal were discovered in 14% of the patients, according to the researchers. Patients all had severe otalgia, with 72 percent having chronic otorrhea and 12 percent having polyps in the external auditory canal. Because fungus-induced mastoiditis is a resistant condition, radical mastoidectomy is usually required. [14]

Based on Mani et al. However, the presence of cranial nerve involvement has not been found to have an impact on the overall prognosis[15]. Studies have revealed that facial nerve palsy is substantially less likely to resolve after treatment. Few of the related studies were reviewed[16-20].

Conclusion:

Malignant Otitis Externa is a contagious external ear infection that can extend to the temporal bone and harm cerebral tissues.Otitis externa can cause facial palsy, which is a rare consequence. In this case report, we addressed the surgical care and result of a 75-year-old male with Malignant Otitis Externa and Grade 4 Facial Nerve Palsy.

Conflict of Interest: No conflict of interest

Informed consent: Written Informed consent was taken from the patient and the relatives.

Reference:

1. Carfrae MJ, Kesser BW. Malignant otitis externa. Otolaryngologic Clinics of North America. 2008 Jun 1;41(3):537-49.
2. Karaman E, Yilmaz M, Ibrahimov M, Haciyev Y, Enver O. Malignant otitis externa. Journal of Craniofacial Surgery. 2012 Nov 1;23(6):1748-51.
3. Ruffin M, Brochiero E. Repair process impairment by Pseudomonas aeruginosa in epithelial tissues: major features and potential therapeutic avenues. Frontiers in cellular and infection microbiology. 2019 May 31;9:182.
4. Vayisoglu Y, Gorur K, Ozcan C, Korlu S. Unusual complication of otitis media with effusion: facial nerve paralysis. Journal of Craniofacial Surgery. 2011 Jul 1;22(4):1525-7.
5. Badaruddin, A. and Choo, M.M., 2021. Facial nerve palsy in otitis externa: A red flag?. *Malaysian Family Physician: the Official Journal of the Academy of Family Physicians of Malaysia*, *16*(1), p.117.
6. Rubin J, Victor LY. Malignant external otitis: insights into pathogenesis, clinical manifestations, diagnosis, and therapy. The American journal of medicine. 1988 Sep 1;85(3):391-8.
7. González JL, Suárez LL, de León JE. Malignant otitis externa: an updated review. American Journal of Otolaryngology. 2021 Mar 1;42(2):102894.
8. Illing E, Olaleye O. Malignant otitis externa: a review of aetiology, presentation, investigations and current management strategies.
9. Arsovic N, Radivojevic N, Jesic S, Babac S, Cvorovic L, Dudvarski Z. Malignant otitis externa: causes for various treatment responses. The Journal of International Advanced Otology. 2020 Apr;16(1):98.
10. Dabiri S, Karrabi N, Yazdani N, Rahimian A, Kheiltash A, Hasibi M, Saedi E. Facial nerve paralysis in malignant otitis externa: comparison of the clinical and paraclinical findings. Acta Oto-Laryngologica. 2020 Dec 1;140(12):1056-60.

11. Franco-Vidal V, Blanchet H, Bebear C, Dutronc H, Darrouzet V. Necrotizing external otitis: a report of 46 cases. Otology & Neurotology. 2007 Sep 1;28(6):771-3.
12. Stevens SM, Lambert PR, Baker AB, Meyer TA. Malignant otitis externa: a novel stratification protocol for predicting treatment outcomes. Otology & Neurotology. 2015 Sep 1;36(9):1492-8.
13. Bhat V, Aziz A, Bhandary SK, Aroor R, Kamath P SD, Saldanha M. Malignant Otitis Externa-A Retrospective Study of 15 Patients Treated in a Tertiary Healthcare Center. Journal of International Advanced Otology. 2015 Apr 1;11(1).
14. Narozny W, Kuczkowski J, Stankiewicz C, Kot J, Mikaszewski B, Przewozny T. Value of hyperbaric oxygen in bacterial and fungal malignant external otitis treatment. European Archives of Oto-Rhino-Laryngology and Head & Neck. 2006 Jul;263(7):680-4.
15. Mani N, Sudhoff H, Rajagopal S, Moffat D, Axon PR. Cranial nerve involvement in malignant external otitis: implications for clinical outcome. The Laryngoscope. 2007 May;117(5):907-10.
16. Yadav, P., Dhaka, S., Chaudhary, R., Damke, S., Lohiya, S., 2020. A rare case report of Guillain-Barre syndrome presenting as unilateral facial palsy with isolated acute bulbar palsy. JOURNAL OF PEDIATRIC NEUROSCIENCES 15, 157–159. https://doi.org/10.4103/jpn.JPN_129_19
17. Athawale, Vrushali K., Dushyant P. Bawiskar, and Pratik Arun Phansopkar. "Rehabilitation of a Patient with Bell's Palsy." Journal of Evolution of Medical and Dental Sciences 10, no. 20 (May 17, 2021): 1551–54. https://doi.org/10.14260/jemds/2021/323.
18. Chaudhary, Shruti, GyanaveluInjeti, Amar Taksande, RevatMeshram, and Amol Lohkare. "Right Sided Facial Nerve Palsy, Bilateral Microtia with Polydactyly in an Infant – A Rare Case Report." Journal of Evolution of Medical and Dental Sciences 10, no. 18 (May 3, 2021): 1353–55. https://doi.org/10.14260/jemds/2021/285.
19. Jain, S., Singh, P., Methwani, D., Kalambe, S., 2019c. Role of Eustachian Dysfunction and Primary Sclerotic Mastoid Pneumatisation Pattern in Aetiology of Squamous Chronic Otitis Media: A Correlative Study. INDIAN JOURNAL OF OTOLARYNGOLOGY AND HEAD & NECK SURGERY 71, 1190–1196. https://doi.org/10.1007/s12070-018-1259-x
20. Mahalle, S., 2019. Osteoma of external auditory canal associated with external auditory canal cholesteatoma and exuberant granulation tissue in mastoid air cell system: a rare association. INDIAN JOURNAL OF OTOLARYNGOLOGY AND HEAD & NECK SURGERY 71, 1505–1507. https://doi.org/10.1007/s12070-019-01643-9