OTOGENIC INTRACRANIAL ABSCESS

Pages with reference to book, From 220 To 221

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Middle ear is separated from middle cranial fossa by thin plate of bone known as tegmen tympani and from the sigmoid sinus by sinus plate. The chronic middle ear disease such as granulation or Choesteotoma can errode tegmen tympani or posteriorly the sinus plate and lead to intracranial complications. The most important to otolaryngologist is the brain abscess and sinus thrombophlebitis. Any patient with history of prolonged ear discharge associated with headache vomiting and bradycardia should be strongly suspected for brain abscess and treated accordingly. Twenty-four cases of otogenic intracranial abscess were seen over 20 years by Snell et al[1] and 139 by Bradlay et al[2] over 30 years, indicating its low occurrence in the developed countries. A high occurrence of this disease (34 cases in 4 years) in our country prompted us to study otogenic intracranial abscess in detail.

PATIENTS, METHODS AND RESULTS

Thirty-four cases of otogenic brain abscess were seen at the department of E.N.T. and Head/Neck Surgery, Khyber Teaching Hospital, Peshawar from October, 1984 to June, 1987. Majority of the patients were admitted in emergency with history of headache, vomiting and chronic ear discharge. Six patients were uncooperative and irritable, 5 had vertigo, ataxia nystagmus and disturbed finger nose test, while three were admitted in state of coma, one patient was having convulsion and one sided hemiplegia. Other signs and symptoms are shown in Table.

TABLE. Sign and symptoms.

	Symptoms		Signs
1.	Headache 100%	1.	Impaired finger test. (cerebellar abscess 100%; cerebral abscess nil)
2.	Vomiting 100%	2.	Temperature subnormal 80% pyrexia 20%
3.	Ear discharge 100%	3.	Bradycardia 60%
4.	Pain in ear 75%	4.	Fundoscopy papillaedema 40% normal 60%
		5.	Nystagmus cerebellar 100%
		6.	Slurred speech 65%

All the patients were subjected to complete physical and systemic examination and routine laboratory investigation, i.e., blood, urine and x-ray chest. X-ray skull was taken to look for any displacement of pineal gland, any opacity or a gas shadow. Brain scan was done in 7 cases but did not reveal space occupying lesions in any case. After diagnosis the affected mastoid was explored immediately, field was cleared from granulation and cholesteatoma and brain abscess was looked for. If the tagmen tympani or sinus plate was found erroded or the colour of the dura was changed from its normal bluish glistening colour then this was taken as the suspicious area. This area was tapped with a wide bore cannula; usually 2-3 pricks in the same area were sufficient in 90% of the cases to aspirate the abscess. Aspirate was then sent for aerobic and anaerobic culture. Temporal lobe abscess were found in 9 cases (26.5%), cerebellar abscess in 6 (17.6%), extradural in 15 (44.1%) and subdural in 4 cases (11.8%). Cases of meningitis and thrombophlebitis were not included in this study. Bacterial pathogens were isolated from the aspirated pus in 18 cases (57%). Anaerobic culture was done in 7 cases. Organisms isolated were protens vulgaris in 10 cases, pseudomonas in 3, E. Coli in 2 and kiebseilla, staph aureus, strep. faecalis in one case each. Two patients with temporal lobe abscess and. one with cerebellar abscess died.

COMMENTS

The results of this study indicate a high prevalence of otogenic brain abscess in our population. Staurt et al[3] reported that 5% patients with acute otitis media and 3% with chronic otitis media develop brain

abscess but John et al[4] studied 30 children with mastoiditis and reported complication in 13 (43.3%) patients. In another study of 335 cases of mastoiditis complications, 224 (66%) patients presented with intracranial sepsis[5]; of these meningitis occurred in 83 cases, brain abscess in 53 (23%) extradural abscess in 49 cases (22%) and lateral sinus thrombosis in 39 cases. Male dominance as reported in early series[4,6] was thankful to Mr. Gulab Khan and Mr. Zafar Iqbal for confirmed in our study too, but the frequency of papffleodema was very high (40%) in the present study as compared to 5% reported by others[7]. Multiple otitic brain abscess were found in 4 to 15 of the cases reported by Keplan[8] but we could not find metastatic abscess in any case. Variable microbiological profile has been reported by various workers. Proteus was the predominent pathogen in few studies[6,9], while staphylococcus and proteus appeared more prevalent in other study[10]. Workers believe that sterile cultures are obtained in centres where inadequate facilities for anaerobic cultures are present. Similar was the case in the present study. Overall mortality in this study was 11.4% which is much lower than 27-41% reported by others[11-13].

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