Vol 1| Issue 1|2022

Dear Doctor,

Greetings from Micro Labs limited. We are happy to bring you "ENT BB Connection" which contains latest and interesting news.

Inside This Issue:

- Intracranial otogenic complications in Patients with COVID-19
- Incidence of Laryngopharyngeal reflux in obstructive sleep apnoea patients with Eustachian tube dysfunction
- Atypical Stevens–Johnson syndrome associated with mucosal ulcerations of the pharynx and larynx: A case report

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Looking forward to your valuable feedback

Best Regards,

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ENT_BB CONNECTION

Vol 1| Issue 1|2022

Intracranial otogenic complications in Patients with COVID-19

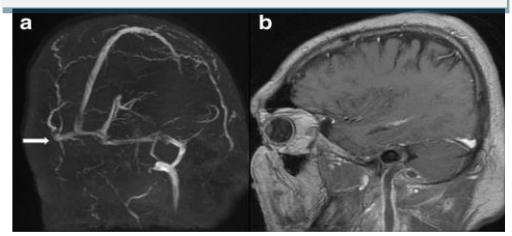
Otitis Media usually highlights as an unusual presentation that occurs rarely in conjunction with common viral symptoms or as an isolated disorder while COVID-19 disease presents with a spectrum of symptoms[1].Studies have explained the impact of the COVID-19 viruses on the inner ear. On the other hand, complications of otitis media could be life-threatening which can occur due to secondary reasons leading to acute or chronic otitis media with or without cholesteatoma.[2] Extra cranial and intracranial complications ranges from 0.69% to 5% while mortality rate from intracranial complications is reported as 8%.[2] Irrespectively of the COVID-19, acute and chronic otitis media occurs at random rates, but there are some factors like limited availability of specialist consultations, increased population morbidity, and the nature of the COVID-19 thromboembolic phenomenon influences the incidence of otogenic intracranial complications[1]

Cerebral venous sinus thrombosis could be frequent component of intracranial otogenic complications due to COVID-19 infections.

A study by Wierzbicka1 M et al, aimed to compare the clinical features of patients before and after COVID 19 with intracranial otogenic complications, with special regard to sigmoid sinus thrombosis

This Retrospective analysis enrolled 14 patients with intracranial complications, 5 in the pre-COVID cohort and 9 in the COVID cohort, while 2 patients had sigmoid sinus thrombosis(Fig:1) and 2 patients reported a history of chronic otitis media. Analysis was done among all patients with intracranial complications for the identification of Cerebral venous sinus thrombosis.

Fig:1
a. MRV—no flow in sigmoid and transverse sinus, b.T1 MPRANGE image coronal reconstruction with contrast, thrombus in left sigmoid sinus



Five patients with sigmoid sinus thrombosis tested negative for COVID-19. No symptoms related to COVID 19 was observed in any patients. Of 5 patients with sigmoid sinus thrombosis, fever was observed in 1 patient, headache in 5 patients, earache in 1 patient, purulent discharge in 2 patients, disturbances of consciousness in 2 patients, facial nerve paresis in 1 patient, and epileptic seizure in 1 patient etc. The result of otoscopy revealed erythematous and bulging tympanic membrane in 4 patients, erythema overlying the mastoid processes and protrusion of the pinna was noted in 1 patient. Of the total patients,1 had a tympanic membrane

perforation while other had hearing loss, conductive hearing loss and mild sensorineural hearing loss. On the other hand, 5 intracranial complications in the pre-COVID patients were recorded, out of which 2 had meningitis, 2 had brain abscesses, and 1 had brain abscess and CVST simultaneously. In the COVID cohort, 2 cases had Cerebral venous sinus thrombosis of otogenic origin, and 3 cases had Cerebral venous sinus thrombosis and meningitis simultaneously. It was also observed that in COVID-19 cohort, 55.6% of patients had cardiovascular comorbidities while in the pre-COVID-19 cohort, only 1 patient was recorded with cardiovascular complications.

In the pre-COVID-19 cohort, 3 patients had a previous history of chronic otitis whereas in the COVID-19 cohort, 5 patients had a history of otologic disease. Two cases showed the involvement of the deep venous system having internal jugular and subclavian vein thrombosis. No intracranial bleeding was observed.
Neither known risk factors nor prior history of chronic otitis media showed statistically significant differences between the groups, and thus could not be considered as risk factors for Cerebral venous sinus thrombosis.

Conclusion: Different studies suggest that Cerebral venous sinus thrombosis is a rare event associated with COVID-19 infection while this study highlighted that Cerebral venous sinus thrombosis could be frequent component of intracranial otogenic complications due to COVID-19 infections

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Vol 1| Issue 1|2022

Incidence of Laryngopharyngeal reflux in obstructive sleep apnoea patients with Eustachian tube dysfunction

Laryngopharyngeal reflux disease is defined as varieties of symptoms that causes the acid in the stomach to come up into the upper airways, especially at the level of the hypopharynx and larynx.[1] Laryngopharyngeal reflux disease threatens the quality of life of patients as they suffer from dysphonia, chronic cough, sore throat, excess throat mucus or pharyngeus globus while Gastroesophageal reflux disease is defined as the backflow of gastric contents into the esophagus, leading to tissue damage with esophagitis and heartburn.[2] On the other hand, Obstructive sleep apnoea is a type of sleep disorder leading to partial or complete obstruction of the upper airway and Eustachian tube dysfunction is the mechanical obstruction of the Eustachian tube or motile mucociliary impairment, leading to middle ear infections. According to studies, blockade of Eustachian tube or delayed opening is a common phenomenon in adults with Obstructive sleep apnea, with the concurrence rate of 20%. Since Laryngopharyngeal reflux disease can change the pathophysiological character of the Eustachian tube, the concurrence rate of Eustachian tube dysfunction and Laryngopharyngeal reflux disease is higher

Treatment with proton pump inhibitor can be of significant value in improving Eustachian tube function in Obstructive sleep apnea patients with Laryngopharyngeal reflux disease.

A study by Yan S et al, aimed to assess the effects of laryngopharyngeal reflux disease and treatment with proton pump inhibitor on Eustachian tube function in patients with obstructive sleep apnea. Subjects were divided into 3 groups: the control group, Obstructive sleep apnea group, and Obstructive sleep apnea + Laryngopharyngeal reflux disease group. Patients with Obstructive sleep apnea and Laryngopharyngeal reflux disease received PPI treatment twice a day for 12 weeks (omeprazole, 20 mg twice a day, half an hour prior to meal. Routine otolaryngological examinations were conducted prior to the study. Eustachian tube score-7 was recorded in the control group, Obstructive sleep apnea only group, and Obstructive sleep apnea + Laryngopharyngeal reflux disease group before and after treatment with proton pump inhibitor.

Fig: 2 ETS results after PPI treatment in each group.

ETS-7 [n (%)]	Control, n = 36	OSA only, n = 38	OSA + LPRD after PPI, n = 40	P
				.674
Normal ETS-7	29 (80.6)	28 (73.7)	26 (65.0)	
Unilateral abnormal ETS-7	5 (13.9)	7 (18.4)	9 (22.5)	
Bilateral abnormal ETS-7	2 (5.5)	3 (7.9)	5 (12.5)	

Abbreviations: LPRD, laryngopharyngeal reflux disease; OSA, obstructive sleep apnea; PPI, proton pump inhibitor; ETS-7, Eustachian tube score-7. Control vs OSA only: P = .842. Control vs after PPI OSA + LPRD: P = .358. OSA only vs OSA + LPRD after PPI: P = .708.

Fig 3: ETS-7 results before and after PPI treatment in the OSA + LPRD group.

ETS-7, n (%)	OSA + LPRD before PPI, n = 40	OSA + LPRD after PPI, n = 40	P
			.001
Normal ETS-7	10 (25.0)	26(65.0)	
Unilateral abnormal ETS-7	16 (40.0)	9(22.5)	
Bilateral abnormal ETS-7	14 (35.0)	5(12.5)	

Abbreviations: LPRD, laryngopharyngeal reflux disease; OSA, obstructive sleep apnea; PPI, proton pump inhibitor before vs after PPI treatment: P = .001.

No differences were observed among 3 groups, based on demographic factors like age, sex, smoking history, and drinking history. In the control group, the body mass index was lower compared to other groups. The abnormality rate of Eustachian tube score-7 statistically differed in the Obstructive sleep apnoea + Laryngopharyngeal reflux disease group as compared to other group (Fig:3 before PPI treatment). After PPI treatment, Obstructive sleep apnea + Laryngopharyngeal reflux disease group exhibited no significant differences in the abnormality rate of Eustachian tube score-7 as compared to other groups (Fig:2). According to the multivariate analysis, only Laryngopharyngeal reflux disease had an independent correlation with the abnormality of Eustachian tube score-7

This study highlighted that the reason for the high incidence of abnormality rate of ETS-7 in Obstructive sleep apnoea patients could be Laryngopharyngeal reflux disease. So, treatment with proton pump inhibitor can be of significant value in improving Eustachian tube function in Obstructive sleep apnoea patients with Laryngopharyngeal reflux disease.

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ENT_BB CONNECTION

Vol 1| Issue 1|2022

Atypical Stevens–Johnson syndrome associated with mucosal ulcerations of the pharynx and larynx: A case report

Stevens–Johnson syndrome is a serious disorder of the skin and mucous membrane characterized by blisters and painful rashes.[1] It is known to be triggered by the drugs. Common sign and symptoms of Stevens–Johnson syndrome includes malaise, headache, cough, rhinorrhea, polymorphic lesions of the skin and mucous membrane.[2] It can damage the mucous membranes of the eyes, mouth, nose, and genitalia leading to erosive haemorrhagic mucositis.[2] Symptoms starts showing between 4–28 days of exposure with the suspicious drug, and the time to cure, depends on the length of exposure to the sensitizing drug.[1] Though the incidence rate of Stevens–Johnson syndrome is low (approximately 1–7 out of 1 000 000 annually) but the mortality rate is as high as 4.8%.[1]

In the event of unexplained mucosal lesions or a poor effect of conventional treatment, strict monitoring should be done. Systemic diseases, previous history of drug intake, history of drug allergies should not be ignored.

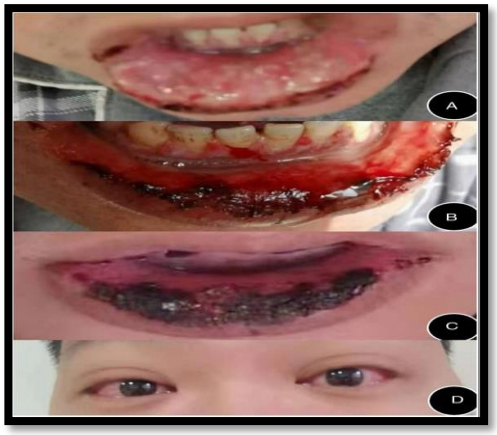
A 38-year-old man was presented with the chief complaint of sore throat, dysphagia, and tearing after acquiring cold since 3 days for which treatment was sought in a local hospital. Patient was administered cefazolin, dexamethasone, fluconazole, aerosol inhalation, and sodium bicarbonate gargle which did not result in the improvement of the symptoms. Though patient's vital signs were steady, ulcerations in lips, gums, uvula, soft palate, base of the tongue, tonsils and conjunctival congestion in both eyes were observed. (Fig 4)

Patient's past medical history revealed of reactive arthritis since one year for which intermittent oral sulfasalazine and diclofenac was prescribed. No family history of illness or drug allergies were recorded. Initially, based on the patient's chief complaint fungal infection of the throat was suspected but fiber laryngoscopy revealed that the oropharynx, hypopharynx, and laryngeal mucosa were red and swollen, with white ulcers scattered throughout. Patient was advised for methylprednisolone, clindamycin, budesonide, sodium bicarbonate gargle and other symptomatic and rehydration support treatments. Laboratory test revealed no significant abnormal results. Patient was then started with ceftriaxone, metronidazole, fluconazole, mouthwash, spray, and nutrition support treatment.

Later, sulfasalazine and diclofenac were discontinued. After Atypical Stevens–Johnson syndrome was ruled out, Glucocorticoids, antibiotics, and nutritional support were recommended. Subcutaneous Etanercept 50 mg was initiated after tumour was ruled out by Opthalmologist and Clapton eye drops, pranoprofen eye drops, and erythromycin eye ointment were started too. Symptoms such as sore throat and dysphagia gradually reduced and

the pharyngeal mucosal ulcers started healing. After a week of observation, patient was discharged from the hospital.

Fig 4: Mucosal ulcer-bleeding-scab of lip and gums and conjunctival congestion



Follow up after a month revealed no sore throat but slight dryness of the nasal cavity was present. The patient also complaint of dryness of the eyes during 1 month follow up which eventually disappeared in about 6 months. No throat and eye discomforts, such as sore throat, dysphagia, and tearing, was noticed during the one-year follow-up.

In this case report, the lesions were primarily involved in the mucosa of the pharynx and larynx and conjunctiva without skin damage becoming an extremely rare case of typical Stevens–Johnson syndrome.

This case report highlighted that in the event of unexplained mucosal lesions or a poor effect of conventional treatment, systemic diseases, previous history of drug intake, history of drug allergies of the patient and first degree relative should not be ignored.

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Vol 1| Issue 1|2022