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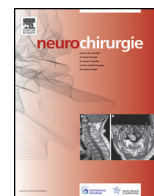


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Letter to the editor

Iatrogenic rhinorrhea by nasal swab testing during COVID-19 pandemic: Case report



1. Introduction

In December 2019, COVID-19 started as a novel viral infection and became a pandemic by March 2020. As of July 9, 2021, 185,291,530 people have been infected and 4,010,834 people have been died because of COVID-19 [1]. The main factor to control this pandemic is detecting the SARS-CoV-2 virus as a crucial step in the global effort. To achieve this, nasopharyngeal swab testing is described as the reference test for detecting the active infection [2]. However, the adverse events related to the nasal swab testing is not well studied. In this paper, the authors present the details of the fifth case of cerebrospinal fluid leak after nasal swab testing for COVID-19 in the published English literature.

2. Case details

A 45-year-old woman presented to the neurosurgery outpatient clinic in October 2020 with continuous rhinorrhea that increases with maneuvers end up with an increase in the intracranial pressure. The patient had a history of nasal swab testing for COVID-19 20 days before admission to the hospital. The rhinorrhea had started shortly after the nasal swab testing in another clinic and the patient has been prescribed acetazolamide which decreased the amount of rhinorrhea but could not solve the problem. Cranial MR evaluation showed that a clear CSF passage from the anterior ethmoidal air cells (Fig. 1a). The decision was following the patient with lumbar drainage as a non-surgical treatment option for the defect.

Patient's rhinorrhea has been ceased after the insertion of the lumbar drainage. The patient was followed for 10 days with lumbar drainage. After 10 days of drainage, the drain was terminated for 24 hours. After the termination of the drainage, no more rhinorrhea has been observed and the patient was discharged after the lumbar drainage had been removed. She is under follow up without any recurring rhinorrhea after 9 months from the treatment.

3. Discussion

Nasal swab test for COVID-19 is readily available and has been widespread used as a diagnosing tool for active COVID-19 infection. When performed properly the nasal swab test is considered as the gold standard for detecting the COVID-19 virus [2].

To our knowledge, this is the fifth case of rhinorrhea in the published English literature after nasal swab test for COVID-19 [3–6]. In the first case presented, the authors postulated that the rhinorrhea was because of the preexisting defect and breached by an improperly placed nasal swab. The patient then required an endoscopic endonasal repair of the mentioned defect which resolved the patient's rhinorrhea [4]. In the second case, a 40-year-old female patient presented with meningitis after rhinorrhea, and with proper antibiotic treatment for meningitis the rhinorrhea was ceased, and the authors opted out surgical intervention [3]. Third case was a 67-year-old female patient who was treated with fat plug with augmentation of free mucosa overlay graft through endoscopic endonasal approach [5] and the last case was a 59-year-old male patient who was treated through endoscopic endonasal approach two times and the revision surgery was performed with additional lumbar drainage system implementation. The case presented here is unique in terms of treatment because it is the first

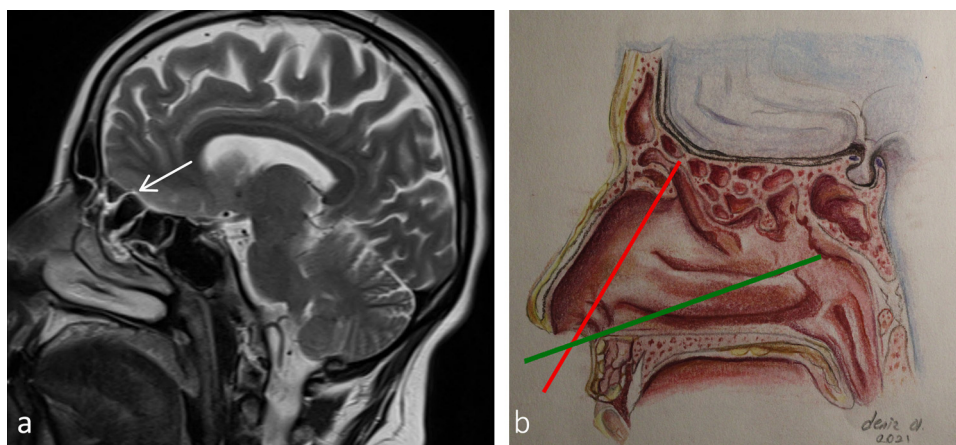


Fig. 1. a: sagittal MR image of the patient showing the CSF leak through the ethmoid cells – white arrow; b: the proper – green line – and the inappropriate – red line – routes for the nasal swab testing.

one treated with only lumbar drainage system implementation.

The nasal swab test is considered as a safe test that is performed by approximately 61.5 million people in Turkey and 218,000 people daily as of July 3, 2021 [7]. The nasal swab test is relatively easy to perform and requires inconsiderable amount of training. The proper way of insertion of the swab should be parallel to the hard palate until a resistance is felt [8] (Fig. 1b – green line). The swab should not be directed upwards (Fig. 1b – red line) as it is not possible to collect the required specimen from the nasopharynx and can damage the ethmoidal air cells and as a result causing rhinorrhea as seen in our patient.

Even though the adverse events related to nasal swab testing is very rare and mostly not serious [9] but, it is important to be familiar with the possible complications and appropriate management of these adverse events. Test performers should be carefully trained for proper insertion of the nasal swabs both for the prevention of adverse events and for effective sample collection.

4. Conclusion

Nasal swab testing is the gold standard diagnostic tool for COVID-19. The test performers could not cause any side effect if they follow the basic steps for the effective sample collection. Very rarely, due to inappropriate positioning of the swab additional surgical and/or medical intervention requiring medical conditions can be faced upon.

Disclosure of interest

The authors declare that they have no competing interest.

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