

Pituitary Surgery During Covid-19

see [Precautions for endoscopic transnasal skull base surgery during the COVID-19 pandemic](#)

During the [Covid-19 pandemic](#), every [hospital](#) has had to change its internal [organization](#). The nature of the transsphenoidal corridor exposes the pituitary surgery team to an increased risk of virus exposure ¹⁾.

It was reported that the aerosolization and mucosal involvement increase the risk of viral transmission during operation. Therefore, transcranial is a safer surgical approach during the [COVID-19 pandemic](#).

Case series

Nine cases of [pituitary neuroendocrine tumors](#) have presented with urgent manifestations. The [endoscopic endonasal approach](#) was performed in eight patients, while a [craniotomy](#) was selected for a [recurrent pituitary neuroendocrine tumor](#). Pre- and postoperative thorough clinical evaluations with chest CT scans were performed. Other strict infection control measures have been applied.

In 8 weeks duration starting from the past days of February 2020, we have operated on four females and five males of pituitary neuroendocrine tumors. Visual deterioration was the main presenting symptom. The driving factor for surgery was saving vision in eight patients. Fortunately, the postoperative course was uneventful for all patients. No suspected COVID-19 infection has been reported in any patient or health-care team except one patient. In our city, PCR test was routinely not available ²⁾.

A retrospective cohort study was conducted of all patients who underwent high-priority endoscopic nasal surgery or anterior skull base surgery between 23rd March and 15th June 2020 at University Hospitals Birmingham NHS Trust.

Twenty-four patients underwent endonasal surgery during the study period, 12 were males and 12 were females. There was no coronavirus-related morbidity in any patient.

This observational study found that it is possible to safely undertake urgent endonasal surgery; the nosocomial risk of coronavirus disease 2019 can be mitigated with appropriate peri-operative precautions ³⁾.

Case reports

A 21-year old male, who required urgent surgery because of progressive visual disturbance due to [giant pituitary neuroendocrine tumor](#). On brain MRI with contrast, it was revealed an extra-axial tumor extending anteriorly over planum sphenoidal with the greatest diameter was 5.34 cm. A transcranial approach was chosen to resect the tumor. Near-total removal of the tumor was achieved without

damaging the vital neurovascular structure. The visual acuity was improved and no significant postoperative complication. Pathology examination revealed pituitary neuroendocrine tumor.

Transcranial surgery for pituitary neuroendocrine tumor is still an armamentarium in neurosurgical practice, especially in the [COVID-19 pandemic](#) to provide a safer surgical approach ⁴⁾.

The goal of a paper of Penner et al. is to illustrate the feasibility of [pituitary region](#) surgery during the [SARS-CoV-2](#) pandemic.

After two negative COVID tests were obtained, three patients with macro [GH](#)-secreting tumors, and two patients with micro [ACTH](#)-secreting tumors resistant to medical treatment underwent surgery during the pandemic. During the surgery, every patient was treated as if they were positive.

Neither operator nor patient has developed COVID symptoms. The two neurosurgeons performing the operations underwent two COVID swabs, which resulted in negative.

Pituitary surgery is high-risk non-urgent surgery. However, the method described has so far been effective and is safe for both patients and healthcare providers ⁵⁾.

The [impact](#) of [COVID-19](#) on [pituitary surgery](#). ANZ J Surg. 2020 Apr 25. doi: 10.1111/ans.15959. [Epub ahead of print] PubMed PMID: 32336017 ⁶⁾.

A 47-year-old male COVID-19 positive patient presented to the Emergency Department with a left frontal headache that culminated with diplopia, left eye ptosis, and left visual acuity loss after 5 days. Transsphenoidal hypophysectomy was uneventfully performed, and the patient was discharged from the hospital on postoperative day four. It additionally describes in detail the University of Mississippi Medical Center airway management algorithm for patients infected with the novel coronavirus who need emergent surgical attention ⁷⁾.

A 72-year-old woman who required urgent endonasal transsphenoidal surgery (eTSS) because of progressive visual field disturbance due to pituitary neuroendocrine tumor, in whom we conducted reverse-transcriptase-polymerase-chain-reaction (RT-PCR) for COVID-19 and chest CT before eTSS. We took care of her by following the rule for suspected infection patient and safely completed her treatment without medical staff infection. Under COVID-19 pandemic state, essentially careful management including RT-PCR test and chest CT should be taken for the high infection risk surgeries to avoid the outbreak through the hospital. And the cost of the RT-PCR test for the patients should be covered by the government budget ⁸⁾.

References

¹⁾

Quillin JW, Oyesiku NM. Status of Pituitary Surgery During the COVID-19 Pandemic. Neurol India. 2020

May-Jun;68(Supplement):S134-S136. doi: 10.4103/0028-3886.287685. PMID: 32611904.

2)

Arnaout MM, Bessar AA, Elnashar I, Abaza H, Makia M. pituitary neuroendocrine tumor surgeries in COVID-19 era: Early local experience from Egypt. Surg Neurol Int. 2020 Oct 29;11:363. doi: 10.25259/SNI_472_2020. PMID: 33194296; PMCID: PMC7655998.

3)

Naik PP, Tsermoulas G, Paluzzi A, McClelland L, Ahmed SK. Endonasal surgery in the coronavirus era - Birmingham experience. J Laryngol Otol. 2020 Nov 4;1-4. doi: 10.1017/S0022215120002364. Epub ahead of print. PMID: 33143753; PMCID: PMC7729149.

4)

Golden N, Nirryana W, Awyono S, Eka Mardhika P, Bhuwana Putra M, Stefanus Biondi M. Transcranial approach as surgical treatment for giant pituitary neuroendocrine tumor during COVID 19 pandemic - What can we learn?: A case report. Interdiscip Neurosurg. 2021 Feb 25:101153. doi: 10.1016/j.inat.2021.101153. Epub ahead of print. PMID: 33654658; PMCID: PMC7906516.

5)

Penner F, Grottoli S, Lanotte MMR, Garbossa D, Zenga F. Pituitary surgery during Covid-19: a first-hand experience and evaluation [published online ahead of print, 2020 Jul 10]. J Endocrinol Invest. 2020;10.1007/s40618-020-01354-x. doi:10.1007/s40618-020-01354-x

6)

Mitchell RA, King JA, Goldschlager T, Wang YY. The impact of COVID-19 on pituitary surgery. ANZ J Surg. 2020 Apr 25. doi: 10.1111/ans.15959. [Epub ahead of print] PubMed PMID: 32336017.

7)

Santos CDSE, Filho LMDCL, Santos CAT, Neill JS, Vale HF, Kurnutala LN. Pituitary tumor resection in a patient with SARS-CoV-2 (COVID-19) infection. A case report and suggested airway management guidelines. Braz J Anesthesiol. 2020 Mar-Apr;70(2):165-170. doi: 10.1016/j.bjane.2020.05.003. Epub 2020 Jun 10. PMID: 32834194; PMCID: PMC7283047.

8)

Akai T, Maruyama K, Takakura H, Yamamoto Y, Morinaga Y, Kuroda S. Safety management in urgent endonasal trans-sphenoidal surgery for pituitary neuroendocrine tumor during the COVID-19 pandemic in Japan - A case report. Interdiscip Neurosurg. 2020 Dec;22:100820. doi: 10.1016/j.inat.2020.100820. Epub 2020 Jul 10. PMID: 32835016; PMCID: PMC7347482.

From:

<https://neurosurgerywiki.com/wiki/> - **Neurosurgery Wiki**

Permanent link:

https://neurosurgerywiki.com/wiki/doku.php?id=pituitary_surgery_during_covid-19

Last update: **2024/06/07 02:49**

