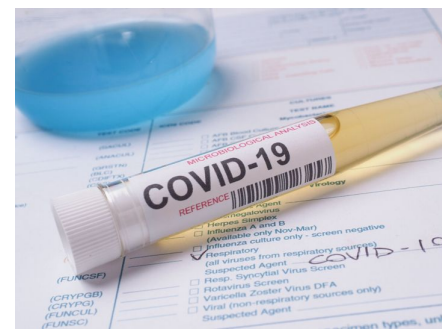




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SKULL BASE SURGERY DURING COVID-19 EMERGENCY

The rapid spread of the coronavirus epidemic has forced epochal changes in our daily habits as well as it has revolutionized our usual clinical and surgical practice. Since March 12th, 2020, when WHO officially announced that COVID-19 infection represented a real global pandemic, healthcare workers cannot avoid implementing adequate strategies to contain the infection and must operate in order to preserve both patients and their own health as much as possible. We are also observing a heavy restriction on healthcare resources, which must be redirected to support the management of the pandemic and therefore removed from normal elective clinical and surgical activities.

As already done by many international scientific societies, the Italian Skull Base Society also wants to suggest clinical and behavioral recommendations to adequately deal with the emergency, as a result of scientific evidences available to date as well as the concrete experience "in the field" of those who are everyday dealing with the epidemic in the hot areas of the infection.

Smell loss and alarming symptoms

In addition to fever, coughing, wheezing and diarrhea, there are other symptoms that can be helpful in identifying at risk patients. Among such symptoms, we want to emphasize the importance of hypo- anosmia and hypo- ageusia, which, as confirmed by numerous scientific evidences in different countries of the world, are configuring as real symptoms associated with SARS-CoV-2 infection. It is known that even infections sustained by other respiratory viruses can be associated with loss of taste and smell in 15% -40% of cases. It is important to investigate this symptom, even in telephone consultations, in order to find out the presence of the infection. The therapeutic recommendations for patients with sudden onset of hypo-/anosmia are: social isolation in quarantine for at least 14 days, nasal olfactory training, oral alpha-lipoic acid and vitamin A-based nasal drops, to facilitate the recovery of the taste-olfactory function. On the contrary, it is recommended to avoid the use of oral and topical nasal corticosteroids, which could interfere with the subsequent course of the infection. However, ongoing chronic nasal topical steroid therapy must not be stopped abruptly since this could exacerbate allergic and sinonasal symptoms, which could mimic the symptoms of coronavirus infection.

Precautionary rules for healthcare workers

The risk of infection spreads through droplets and the more the operator is exposed to the patient's airways (outpatients, endoscopic diagnostic procedures, surgery), the greater the risk. Otolaryngologists and Neurosurgeons are therefore at high risk staff. The anecdotal evidence of the first case of COVID-19 infection during an endoscopic transphenoidal pituitary surgery in Wuhan, China, resulting in cross-contamination of 14 healthcare workers, highlights the danger not of the specific surgical act per se, but rather of the inappropriate selection of the patient and the inadequacy of devices used. To date, hundreds of health care workers have been hospitalized for COVID-19 in China and Europe, and some of them, unfortunately, have also died. Therefore, the recommendations are to ALWAYS wear disposable FFP2/N95 mask, water-resistant gown, gloves, goggles, cap and full-face visor shield. For diagnostic or therapeutic procedures in COVID-19 patients or in case of an urgent procedure without the possibility of testing the patient, FFP3 mask and/or PAPRs (Powered Air Purifying Respirators) are highly recommended.

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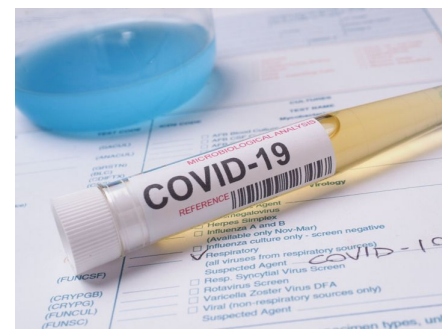
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COVID-19 positivity tests

Nasopharyngeal swab tests, based on reverse-transcriptase PCR to identify SARS-CoV-2, are currently available. These tests take about 4-6 hours, but logistical problems generally prolong the waiting times for the result to 24-48 hours. These tests are burdened by a high number of false negatives. Therefore, the execution of two nasopharyngeal swabs, distanced by at least 2-4 days, is recommended to improve the sensitivity of the method. In the last few days, new immune-assay methods are becoming available for blood determination of specific IgM and IgG antibodies for SARS-CoV-2, which can result in about 20-40 minutes. During the early stages of infection (first 4-10 days) IgM have a sensitivity of 70%, which rapidly increases to 92.3% between day 11 and day 24. In the same period of late infection, the IgG component of the test reaches the 98.6% of sensitivity. This new method, in addition to being faster, offers an overall lower rate of false negatives (about 13%) and probably will be used more frequently in the upcoming months.

Outpatient assessments

It is recommended to postpone all ELECTIVE and NON-URGENT outpatient procedures. Many consultations and evaluations can be done by telephone. Telephone screening can also be very useful to select urgent cases, which really need medical care in a short time, and to identify patients with alarming symptoms, who must be directed towards COVID-19 diagnostic and therapeutic investigations. It is recommended to wear the appropriate protective devices, encourage the patient to use a surgical mask, promote frequent hand alcoholic disinfection, keep interpersonal safety distance (greater than 1 meter) and only admit the patient to the visit (only allowing visitors in case of minors or disabled patients).

Skull base surgery

The data emerging from international clinical experiences show that surgical procedures involving the airways or using them as a surgical corridor, such as transnasal skull base surgery, must be considered as high-risk procedures. Obviously, it is not the endoscopic technique per se which is risky, but it is the nasal and pharyngeal anatomical site that represents a high-risk area, as it may play as a reservoir with a high viral load. Therefore, all endoscopic, microscopic and open surgical procedures involving these anatomical regions must be considered at risk. Similarly, surgical procedures on the lateral skull base are also at risk, given the previous scientific evidences documenting the presence of respiratory viruses in the mucosa of the middle ear.

Therefore, the current recommendations are as follows:

- ✓ Elective surgical activities and non-urgent procedures **MUST BE COMPLETELY SUSPENDED**.
- ✓ Only urgent surgical operations (severe trauma, bleeding, infections/abscesses) and non-deferrable surgical interventions (malignant tumors with critical local extension to brain, orbit and/or with borderline resectability, for which a waiting time longer than 30 days could be fatal for the prognosis *quoad vitam et valetudinem*) can be performed.
- ✓ It is mandatory to test for COVID-19 ALL patients who are candidate for surgery, with at least 2 tests, repeated at a distance of 2 - 4 days, in order to minimize false negatives (the last test must be performed within 48 hours before surgery).
- ✓ For COVID-19 positive patients, procedures should be postponed after swab test negativization, when feasible. If the procedure is strictly necessary for the survival of patient, surgery must be performed in dedicated negative-pressure operating theatres, with a pre-established dedicated run, which should not interfere with the COVID-19-free areas. All medical and nursing staff in the operating room must wear FFP3 and/or PAPRs devices, goggles, full-face visor, double gloves, water-resistant gowns and protective caps, not only for the entire duration of surgery but also for all the patient's time of stay in the operating room.

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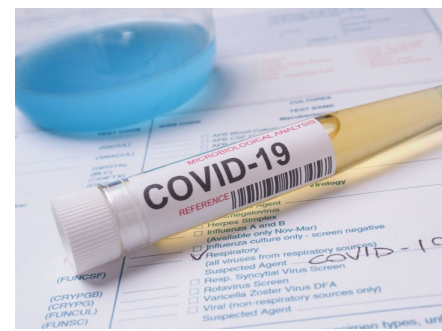
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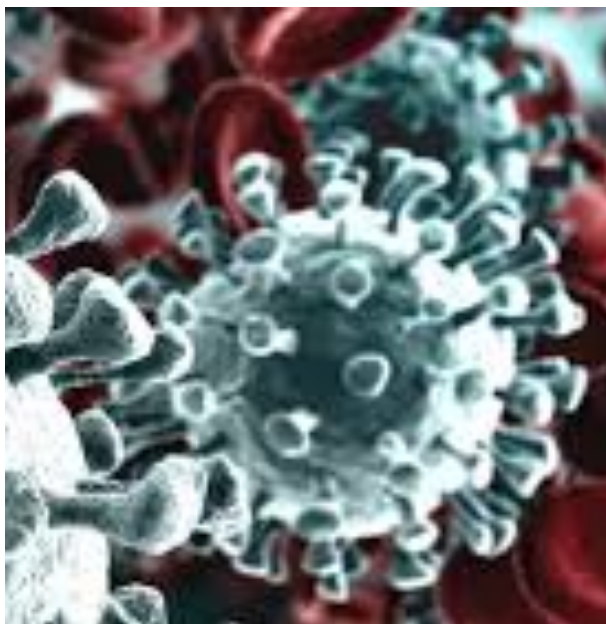


- ✓ If testing for COVID-19 is not available (emergency procedures): follow guidelines as for positive patients.
- ✓ Surgical procedures in COVID-19 negative patients: use the highest individual protection standards (at least FFP2 mask), in consideration of the significant number of false negatives at the swab tests currently used.
- ✓ Avoid/reduce the use of powered nasal surgical instruments (drills, shaver) and spray devices, which promote the aerosolization of potentially infected mucous particles.
- ✓ Similarly, mastoid drilling creates droplets and aerosolization of particles and therefore should be avoided.
- ✓ The whole operating district must be considered at risk not only for the entire duration of surgery but also for all the patient's time of stay. It is therefore advisable to minimize the number of staff members in the operating room; in the same way, observers, fellows and residents in training must be excluded from the operating sessions during this period to reduce exposures.
- ✓ Adequately advise negative COVID-19 patients who underwent surgery to adhere to proper hygiene-behavioral rules during the post-operative period to avoid subsequent superinfections: accurate and frequent hand washing, wear surgical mask, interpersonal distance greater than 1 meter.

Varese, March 30th, 2020

On behalf of the Italian Skull Base Society Board

Prof. Paolo Castelnuovo



BIBLIOGRAFIA:

1. Loss of sense of smell as marker of COVID-19 infection. Royal College of Surgeons of England - www.entuk.org
2. COVID-19: What's NOW? European Rhinologic Society, Guideline and Recommendations, March 2020
3. Z.M. Patel et al. Precautions for endoscopic transnasal skull base surgery during the Covid-19 pandemic. Neurosurgery, Oxford University Press, March 2020
4. https://apps.who.int/iris/bitstream/handle/10665/331215/WHO-2019-nCov-IPCPPE_use-2020.1-eng.pdf
5. Sheridan C. Fast, portable tests come online to curb coronavirus pandemic. Nat Biotechnol. March 2020, doi.org/10.1038/d41587-020-00010-2
6. C. Zoia et al. Neurosurgery during the COVID-19 pandemic: update from Lombardy, northern Italy. Acta Neurochirurgica 2020. doi.org/10.1007/s00701-020-04305-w
7. R.K. Jackler. Covid-19 and Ear Surgery. Stanford University Press, March 2020

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