

Importance of Pre-Operative COVID 19 Screening of Asymptomatic Patients Undergoing Maxillofacial Surgery

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Abstract:

COVID-19 usually presents with fever, coughs, dyspnea, myalgia, and fatigue and may infect people of any age though older people with comorbidities are more vulnerable. But many carriers do not present any symptoms. Operating on undiagnosed COVID-19 patients may cause exposure of medical staff in ward and theatre. A cross-sectional study was done on 100 consecutive cases suffering from oral and maxillofacial pathologies from 20th May 2020 to 28th August 2020, recruited from Oral and Maxillofacial Surgery department of

Dhaka Dental College Hospital and Square Hospitals Ltd, Dhaka, Bangladesh. Out of 100 cases, 7 were affected (7%) by COVID 19 confirmed by RT-PCR in pre-operative screening. Preoperative COVID 19 screening of asymptomatic patients should be considered to improve patient and provider safety and reduce the cost of resource.

Key Words: COVID 19, Maxillofacial Surgery, Screening

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Introduction:

A novel coronavirus was identified as the cause of many pneumonia cases in Wuhan, China in December 2019¹. The new virus, COVID-19 usually presents with fever, coughs, dyspnea, myalgia, and fatigue and may infect people of any age^{2,3}. But many carriers do not present any symptoms^{3,4}. During the current pandemic, it is recommended to postpone all elective surgeries in addition to guidance on infection control and prevention⁵⁻⁷. Emergency and urgent surgeries like oral cancers, maxillofacial trauma, active bleeding and Orofacial infections are still being performed. Operating on COVID-19 patients may cause exposure of medical staff in ward and

theatre. So, all surgical candidate patients must complete preoperative universal health screening for known or unknown symptoms of COVID-19 recommended by different surgical societies^{6,8}. The purpose of this document is to highlight the percentage of COVID 19 positive asymptomatic cases detected in pre-operative screening and its justification before undergoing maxillofacial surgeries.

Materials and Methods:

A cross-sectional study was done on 100 consecutive cases suffering from oral and maxillofacial pathologies from 20th May 2020 to 28th August 2020, recruited from Oral and Maxillofacial Surgery department of Dhaka Dental College Hospital and Square Hospitals Ltd, Dhaka, Bangladesh.

Results:

Among 100 cases, 80 cases were recruited from Oral and Maxillofacial Surgery department of Dhaka Dental College and 20 cases from Square Hospitals Ltd, Dhaka, Bangladesh. Male and female cases were almost same (M: F=1.3:1). Age ranges from 5 years to 80 years with average age 40 years. Data showed case distribution as Oral Cancer (38), Facial Injury (30), Benign Tumor (20), Infection of Orofacial soft and hard tissue (10), Ankylosis of TMJ (1) and impacted wisdom teeth (1). Out of 100 cases, 7 were

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affected (7%) by COVID 19 confirmed by RT-PCR in pre-operative screening.

Among 7 Covid positive cases, 5 were oral cancer, 1 was benign tumor and 1 was infection (Chronic Osteomyelitis). All cases were asymptomatic and needed no treatment for COVID related problems. All these cases were treated accordingly for their primary diseases and discharged uneventfully.

Table 1: Demographic features of patients (n=100)

| | | |
|-----------------------|--|--|
| Age | Mean: Range: | 40 Years 5-80 years |
| Gender | Male Female | 57 (57%) 43 (43%) |
| Socio-economic status | Upper class Lower class | 20 (20%) 80 (80%) |
| Types of Disease | Oral Cancer Facial Injury Benign Tumor Orofacial Infection Ankylosis of TMJ Impacted wisdom teeth | 38 (38%) 30 (30%) 20 (20%) 10 (10%) 1 (1%) 1 (1%) |

Table 2: Distribution of asymptomatic COVID 19 positive cases (n=7)

| | | |
|-----------------------------|--|------------------------|
| Gender | Male Female | 2 (28.5%) 5 (71.5%) |
| Socio-economic status | Upper class - affected Lower class - affected | 3/20, 15% 4/80, 5% |
| Types of underlying disease | Oral cancer Benign Tumor Orofacial Infection | 5 1 1 |

Discussion:

Specialties such as maxillofacial surgery, ENT and clinical dentistry need to provide sufficient facilities and personal protective equipment to protect patients and health care providers from exposure of COVID 19⁹. Due to unknown number of asymptomatic COVID 19 positive patients, all patients seeking for surgical treatment should be taken as potentially infective¹⁰. The facility of accurate SARS-CoV-2 testing would be a significant step in separating infected patients from non-infected patients. As seen in our study, there were 7% positive asymptomatic patients who underwent maxillofacial surgeries. So, routine pre-operative screening prior to elective surgery has been broadly discussed. According to American guidelines, including the Endoscopic

Surgeons (SAGES), Society of Gynecologic Oncology (SGO) and the Society of American Gastrointestinal, preoperative patients should be tested for COVID-19, regardless of their symptoms or exposure^{11,12}.

Identifying SARS-CoV-2 carriers before surgery has benefit to prevent adverse patient events, prevent further transmission, reduce need of personal protective equipment, and improve hospital system efficiency. The disadvantage associated with routine testing are less frequently considered. The objective of SARS-CoV-2 screening with RT-PCR is to detect viral genetic material (RNA) in the pre symptomatic phase of infection. This incubation period for SARS-CoV-2 is protracted with initial low levels of viral RNA until replication increases in the hours or days leading up to appearance of symptom¹³. Logarithmic viral replication and subsequent symptoms only start five to six days after exposure, but often this can be delayed up to 14 days¹⁴. Before viral RNA reaches detectable thresholds, patients may appear well prior to elective surgery despite being exposed to SARS-CoV-2 in the preceding 14 days. If viral carriage is not detected by testing, patients may proceed with elective surgery whereby signs and symptoms of COVID-19 may arise in the post-operative period, leading to adverse effects¹⁵.

Conclusion: COVID-19 may have potential serious complications on the perioperative period and may result in fatal outcome in some situation. From our findings, a good percentage of asymptomatic patients were detected as COVID positive and so preoperative COVID 19 screening of asymptomatic patients should be considered especially in high prevalence areas to improve patient and provider safety and reduce the cost of resource. In addition to testing, alternative strategies that include self-isolation and other distancing measures with universal precaution of considering all cases as COVID positive and protection accordingly are needed to prevent cross infection to health care providers.

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