

Perioperative Concerns of SARS-CoV-2 Vaccination and Anaesthesia

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INTRODUCTION

A 23 year old male presented with diagnosis of a vascular necrosis of hip and was posted for total hip replacement surgery. During pre-anaesthetic check up it was revealed that 2 days back he was vaccinated with first dose of Covishield vaccine. Following vaccine he developed fever at night for which he took paracetamol 650 mg. After paracetamol ingestion he developed rashes, which resolved spontaneously. Next day morning he again developed fever and took 375mg of paracetamol. Again he developed mild rashes, which resolved spontaneously. It was difficult to decide if the rash developed was because of paracetamol or Covishield vaccine per se as we don't have facility for allergy testing of drugs. Considering this, surgery was rescheduled after the gap of two weeks from the day of vaccination.

There has been rise in the number of people being vaccinated as well as the number of patients awaiting surgery after lockdown. Most of the vaccine related side effects are common after the second dose. Usually, side effects occur within 6-8 hours of vaccine injection, but get resolved within 2-3 days and are uncommon after 5-7 days of vaccination [1]. One in ten people encounter vaccine induced fever, nausea, chills, body-ache, headache which may be confused in perioperative period with the complications of surgery and anaesthesia. Arterial and venous thrombosis with a low platelet count have been observed in less than 1 in 100,000 people. Although SARS-CoV-2 vaccination does not interfere with anaesthesia, the stress of anaesthesia and surgery alters the immune response leading to an inadequate response against the vaccine [2].

It is prudent for the anaesthesiologist to be aware of the guidelines for SARS-CoV-2 vaccination and anaesthesia.

American Society of Anaesthesiologists(ASA) recommends vaccination prior to a nonemergency surgery such as hip or knee replacement with a gap of two weeks between the elective surgery and the second dose of vaccine [3].

Royal College of Surgeons (RCS)of England recommends that essential and urgent surgery should be undertaken irrespective of the vaccination status. Elective and nonurgent surgery can be scheduled soon after vaccination but it is better to wait for one week.RCS England also recommend to prioritise vaccination in "P2" patients (procedures required to be performed in less than one month, including cancer surgery) [4].

Limper et al also recommended for delaying the elective procedure 15 days after the second vaccine shot with Astra Zeneca AB, Sodertalje, Sweden SARS-CoV-2 vaccine to

provide complete protection against COVID-19 and significantly reduce postoperative risk [5].

BioNTech-Pfizer, Moderna, Astra Zeneca, Covaxin, Covishield take approximately 7-14 days to provide total immunity after second dose of vaccine [6].

The pandemic is evolving with the second wave more dangerous than the first and a constant threat of upcoming new variants of SARS-CoV-2. Keeping a note of these factors namely complete immunization after vaccine and side effect durations, it is advisable to make policies for SARS-CoV-2 immunization in the perioperative period at institutional levels and if possible, at national levels due to the varied vaccines being used globally.

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