

Summary of the 2nd IAAS virtual Meeting: 10th April 2021

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The second International Association for Ambulatory Surgery virtual meeting took place on 10th April 2021. Convened by Drs Arnaldo Valedon and Vicente Vieira, the meeting provided an international update on the impact of COVID on Ambulatory Care, with presentations from International experts.

The President of the IAAS, Professor Doug McWhinnie, opened the meeting, highlighting that while vaccine roll-out was continuing at a variable rate internationally making individuals feel a little more secure, no-one would be safe from infection until everyone was safe. What changes would be required to optimise ambulatory care in the future? On this basis, the first speakers were John Napoli and Karen McMillan from Australia.

John highlighted that in Australia, there had been 29218 cases of COVID, with 909 deaths and 26253 recovered patients. Typically, cases were distributed in age ranges from late teens to late 60s with an additional over 85s surge. At the peak of the pandemic in July 2020, a National Partnership Agreement was made by the Australian Government for private facilities, where all elective surgery was cancelled from 1st April 2020, but to ensure financial viability, all staff wages and operating costs were covered by the Government. In return, private facilities provided additional capacity for overflow of COVID patients, provision of equipment, deployment of staff, and the possibility of becoming a quarantine facility or vaccination centre. Karen went on to inform that the longest lock down occurred in Melbourne for 112 days, and that strict screening protocols were employed for resumption of elective care namely, temperature checks, screening questions, negative tests before admission, social distancing in waiting/pre-op areas, masks worn by all, and a 20-30 min gap between operations. Non patient facing staff worked offsite, with avoidance of face-to-face meeting. Delivery drivers were not allowed to enter premises, nor were company representatives, and patients are screened the day before their procedure.

Professor Beverly Philip, the current President of the ASA, described the effects of COVID on North America. Surgical volumes dropped by 38% and 59% in March and April 2020 and are still not back to normal. Both clinicians and patients have been affected, with 25% of clinicians retiring earlier, 12% considering a career change, and an increase in anxiety, burnout, substance abuse and sadly, suicide rates. Similarly, 60% patients missed elective procedure of those who needed it. 57% feared exposure. 7% financial effect of pandemic. There was an estimated 70% fall in revenue, but financial assistance provided to healthcare from federal government. Initiatives to manage the ongoing situation include new protocols with plastic shields, sanitizers, screening protocols and visitor restrictions. New technologies are being considered, particularly 3D printed patient specific devices, devices for minimally invasive surgery, and the use of da Vinci machines for gynaecological surgery and increased use of telemedicine.

Incentives for patients include emphasising the effective safety of surgery, provided the pre-operative covid result is negative. It's estimated that patients should wait 4-12 weeks post covid, before surgery, while vaccinated patients should wait for 2 weeks after their final injection before surgery. Given the potential impact of long COVID, with up one third of patients being affected, there will be long term implications.

Mads Moxness from Norway then provided insight on the Scandinavian situation. At March 31st, out of 4664710 tested, there had been 95208 confirmed cases, with 3465 hospitalised and 673 fatalities. 650,000+ had been vaccinated. There is large local variation in Norway with large hospitals in the South East affected more than rural hospitals, where some reported no cases. The most significant issue affecting elective ambulatory surgery is the reduced workforce due to quarantine or infection, and a need for a nationwide relocation of healthcare personnel.

Consideration is given to aerosol generating procedures being a significant risk during medical procedures. Other risks include disease severity, distance from the patient, and duration of operation.

The way ahead during the pandemic was cited as early detection of infection outside the Ambulatory Surgery Centre, optimisation of existing resources by extending operating room hours, prediction of surgical volumes accurately, and to transform operational efficiency by AI based algorithms to predict case length and flexibility of the existing workforce.

Professor Zhang then provided insight from China about COVID status. Ambulatory Surgery is a growing phenomenon in a country with 34 provinces, 1 million institutions and 50.82 million procedures annually. The average length of stay is 9.1 days, and currently 12.8% of elective operations are conducted as daycase.

During the pandemic, CASA sampled 94 hospitals of 2000 offering AS and found that services were suspended in 70, partially suspended with ward closures in 4.5%. By the end of May 2020, 97% had returned to normal. Professor Zhang predicted a return to normal for Ambulatory Surgery and will continue to outgrow 2019 data by July 2020. Initiatives to manage this include the development of smart hospitals with QR code payment for services, development of telemedicine centres with online ward rounds, teleconsultation and conferences, and medical imaging.

Professor Bobbie Jean Sweitzer who is the President Elect of SAMBA, introduced a different theme, with specification of covid induced adjustments on the ambulatory pathway. Early in the pandemic, ambulatory surgery centres were asked to perform higher complexity and higher risk patients while maintaining PPE, hospital and ICU capacity to manage COVID-19 patients, and healthcare personnel.

Adjustments on the path to ambulatory surgery included management of the COVID patient, where recommendations suggest isolation for at least 10 days since onset, until patients are free of fever and symptoms are improving. What is the risk of mortality in patients undergoing surgery with SARS-CoV-2 infection? A study in the Lancet, (Lancet 2020;396:27-38) evaluated 1128 patients, 75% of which were undergoing emergency surgery found that mortality was 24%, pulmonary complications occurred in

51.2%, but mortality was 38% in this subgroup. A study from the British Journal of Surgery suggested that a wait of at least 4 weeks after notification of a positive swab test before cancer surgery reduced mortality to zero. Despite this, the possibility of longer duration post COVID symptoms exist, such as weakness, fatigue, dyspnoea, chest pain and diminished quality of life so pre-operative assessment needs to include screening for these symptoms, as suggested in a paper in Peri-operative Medicine 2021;10.1:3-4. The American Society of Anesthesiologists provided a statement suggesting a delay of 12 weeks for a patient admitted to ICU, 8-10 weeks for symptomatic diabetic, immunocompromised or hospitalised patients, 6 weeks for a symptomatic non hospitalised patients and 4 weeks for asymptomatic patients. Increasingly, prehabilitation is more important in assessing suitability for elective surgery.

Carlo Castoro, a past president of the IAAS, then went on to ask whether we need to change our paradigm for Day Surgery pathways and offered the following suggestions.

Cancellation of Surgery due to the COVID pandemic had a significant effect in Italy with an impact on surgical activity and prioritization for cancer services.

A new proposed patient pathway post COVID would suggest the following: covid antigen test 48hrs before admission, health questionnaire triage, self-isolation and social distancing, provision of patient information and optimisation of health prior to surgery. As before with patient preparation, practical arrangements on the day of surgery should be discussed, together with information on prevention guidelines, the need for social distancing and self-isolation after a negative test. Reassurance should be provided on hygiene measures and rapid in-hospital COVID-19 testing in case of need

Preparing patients with discussion of risks and benefits, agree treatment plan together with alternative options, admission discharge and follow up plans. Pre-operative assessment should aim to reduce professional interactions, with due consideration given to respiratory symptoms and other factors associated with COVID severity.

On the day of surgery, organisational changes should ensure adequate spacing between patients, staggered admissions, reduction of the number of beds in the same room, and training Day Unit staff to the “new normal”. Post discharge, a simple plan and direct

contact in case of doubts or symptoms with follow up teleconsultation should be the new norm.

Carlo then concluded that Ambulatory Surgery is the safest and best quality treatment during COVID 19, with the need to redesign the unit and the patient's journey, minimising patient-patient and patient-staff interactions, involve staff in new pathway design, and consider every component of the patient pathway to minimise the risk of infection.

Madhu Ahuja then gave a presentation about the role of telehealth in Ambulatory Surgery.

Telemedicine is defined as the delivery of healthcare services using information and communication technologies for the exchange of valid information for diagnosis, treatment and prevention of disease and injuries, research and evaluation and for the continuing education of healthcare providers. Telehealth refers to health care services involving all healthcare professions, rather than physicians only.

A brief current survey revealed that only 30% are using an app or web-based system to manage patients on the Ambulatory Surgery pathway. Pre-assessment is based on telephones by 60% of those surveyed; patient information provision is written or verbal by 70%; Discharge information is written by 90% and post-op follow provided by phone for 70%

Set up of a system requires development of a digital patient portal with patient registration, and in person ID check and login. From there, appointments can be carried out.

Pre-operative assessment can be conducted this way with online provision of information for the surgery.

Post op follow up is frequently conducted this way with phone call evaluation, and there is evidence of improved patient satisfaction as well as excellence of clinical outcomes.

Limitations of telehealth include reduced access to technological devices, cultural or language barriers, concerns over security, privacy and confidentiality, and the need to train staff to use the service effectively.

Implementation is a complex process, with need identification, strategic planning, investment in the digital infrastructure, training, engagement and evaluation.

The next presentation was given Jan Eshuis and Kirsti Lehtonen on the expected role of COVID-19 vaccination on Ambulatory Surgery. The international pandemic had a profound effect on healthcare in the Netherlands with a shortage of ICU beds, redeployment of anaesthetic and nursing personnel to ICU undertaking heavy shifts. This had a predictable dramatic fall in operative care, leading to an absolute backlog of 100,000 operations. Vaccination is slowly being rolled out, with 14% immunised in the Netherlands by March 30th 2021 (UK 51%). Strategies to address the backlog include planning and logistics with referral of patients from hospitals to ambulatory surgery units, increasing capacity by extending core hours of service, use of independent clinics, and education and flexible personnel management, educating unit staff to develop mixed competencies, use of lighter teams for simpler procedures, more flexible working schedules and more time in the operating room.

As with other countries, vaccination is given with prioritisation to age, healthcare personnel, and predisposing conditions to COVID 19. Preliminary results of effectiveness suggest that vaccination reduces the number of patients requiring hospital treatment by at least 74%.

Professor Corrine Vons gave us some insight into the mechanisms proposed for managing the backlog of procedures caused by the pandemic. She reported that in France, there were 500,000 fewer stays for ambulatory surgery, meaning an 80% decrease in Ambulatory Surgery. UK media sources have quoted a likely 10 million waiting list as a consequence of the pandemic. Some models for resumption include a study evaluating carotid endarterectomy, where, with a background capacity of 74 patients per week undergoing operations, surgical capacity equals demand, and waiting lists would remain constant. Even if surgical capacity is doubled after 1 month of resuming services, it will still take 6 months to clear the waiting list backlog; 11.5% will wait more than 12 weeks for surgery, resulting in 100-350 additional strokes.

In Ontario, Canada, the estimated backlog was 148364 operations, with an estimated clearance time of 21 months. A depressing study from the USA evaluating cardiac surgery suggested that waiting lists will never return to normal. A proposed strategy is an increasing need to employ ambulatory surgery as a transitional

solution with the use of available retired medical professionals to allow additional operating shifts, expand capacity of ASCs and increase the procedures sent to ambulatory care.

The penultimate talk was given by Eric Litonius, an Anaesthesiologist from Finland and was titled, 'Post discharge monitoring for AS patients and benchmarking of outcomes'

He opened his talk by enquiring what to measure and why? The answer was to choose data that is easy to collect; accurate results should be simple to interpret, actionable and aligned to goals. It is more effective to benchmark to peers to set reasonable goals. Caution should be applied to efficiency measurement as increased efficiency can have a negative effect on patient satisfaction and safety.

Post discharge monitoring has three time context stages: 1) vital reflexes (minutes); 2) Discharge (hours); 3) Full recovery (days/weeks/months). Between 2) & 3) are such complications as haemorrhage, pain, nausea and vomiting, delirium, and neuropathy. So give written clear instruction 24 hour coverage. How to contact hospital. Records should be available. 24 hour follow up phone call.

Finally, he spoke about Covid after surgery.. should I worry?

Mentioning the recent study in the Lancet, (*Lancet* 2020;396:27-38) there is high mortality within 30 days of undergoing surgery, but a more recent study evaluating upper extremity surgery in 1093 patients (*BMJ Quality and Safety* 2021 30.4:283-91.) during the first wave of the pandemic revealed 19 covid cases, and 1 death due to pneumonia within the study period. He therefore suggested close follow up and considering higher dose thromboprophylaxis when feasible.

The final presentation was made by Professor Girish Joshi who spoke on, "High Risk Patient Selection for Ambulatory Surgery: Time to Cross Boundaries."

In the United States, 65% surgical procedures are on an outpatient basis. Implementation of the Enhanced Recovery programme has facilitated migration to Day Surgery, with lower cost and improved outcomes. Selection of appropriate patients is complex and dependent on type of surgical procedure, patient characteristics, proposed anaesthetic, type of facility and care giver availability.

Suitable procedures should have low risk for blood loss, pain at discharge should be controlled with oral medications, there should be no need for prolonged post-operative care, duration should be less than 6hrs, and surgical expertise should exist for the procedure.

Patient characteristics: Age alone is a poor marker for suitability. It is better to consider post-discharge issues such as increased need for supervision and frailty associated with increased morbidity.

Specific co-morbidities that are associated with increased risk are patients within 30 days of a myocardial infarction transient ischaemic attack or stroke, coronary artery ischaemia with stent insertion, severe valve dysfunction, severely reduced ejection fraction (<35%), and end stage renal disease not undergoing dialysis. Obesity: Increased Body Mass Index alone does not influence thirty day readmission rates, but rather co-morbidities associated with obesity and obstructive sleep apnoea, which should be screened with STOPBANG testing and a cut off of 5 used. Other cardiac indicators include new onset atrial fibrillation, the presence of stents, and implantable cardioverters / defibrillators. For the latter, if patients are pacemaker dependent, the device should be reprogrammed. If not, a magnet could be used. The use of bipolar diathermy should be minimised, with the grounding plate placed near the surgical site and away from the device. Patients who have stents inserted should wait 30 days for bare metal stents, 6 months for drug eluting stents, and 12 months for anything older.

Other conditions mentioned were chronic obstructive pulmonary disease where active infection should be treated, smoking stopped and bronchodilator regimens optimised; diabetes where antidiabetic drugs should be continued to the day of surgery, with early resumption of oral intake; end stage renal disease where comorbidities should be optimised, and anaemia and asymptomatic hyperkalaemia should be tolerated and TIA/stroke: Wait 30 days.

There are now consensus guidelines for management of the malignant hyperpyrexia susceptible patient from the European MH group published this year (*British Journal of Anaesthesia* 2021;126.1:120-30). Finally, some work was published evaluating the incidence prediction and causes of unplanned 30 day hospital admission after ambulatory procedures (Teja B et al *Anesthesia & Analgesia* 2020;131:497-507.) where a scoring system offered good discrimination in determination of the risk of unplanned admission.

Professor Joshi concluded with the thought of developing procedure specific clinical pathways to determine the suitability for outpatient procedures.

At the conclusion of the meeting, Dr Valedon thanked the speakers for their informative presentations and looked forward to the next meeting (hopefully in person) in Bruges in 2022.