COVID 19 Webinar - Association of Anaesthetists

Sat 14th March

Notes/Reflections:

Prof Tim Cook

Currently on week 6, not yet hit the point of acceleration.
Ascertainment rate is rate of infections to actual cases.
R0 2.5-3
Ascertainment rate 12 percent
Hospitalisation 12 percent
30-60 percent over the next year of infection
Critically ill 2 percent
Mortality 0.3-1%
Incubation 7-14 days (can be as long as 30 days)
HTN Diabetes CVS - main co-morbid condition 0 IHD 10.5%, Organ failure - 50% die.
December 31st WHO first notified which is why it is COVID 19

10 days into illness is ARDS

HCWs
Ascertainment rate higher than the population as a whole
0.3% mortality rate
Some are asymptomatic
3.85 of HCWs in Chinese paper got infected with 15% severe.
In Italy 8% of infected are HCWs

Virus: shedding early in the disease and sickest shed more with persistent shedding possible. Asymptomatic transmission possible.
BAL and sputum - high rates. Nasal swabs having the highest rate of shedding.
In aerosols lasts up to 3 hours

PPE:
Face mask have 6x reduction in viral exposure
PPE reduces viral exposure 100x
Main contamination on doffing
Maybe just face masks once intubated for sustainability - later decision to be made

Airway management:
Avoid unfamiliar and unreliable techniques
Speedy
No high flow nasal, NIV

No bag mask ventilation
2 person, 2 handed if ventilate
Ket and Roc
Full NMB
V grip instead of C grip
1st operator most experienced

Dr Zhi Song

Shenzhen University Critical Care

Case :
66 male with fever and cough for 8 days
Admitted Jan 11th
Lots of contacts unwell
Ground glass shadow and spot shadow on lung CT
On Jan 10th Chest CT multiple exudative lesions in both lungs, on 14th positive for COVID nucleic acid
WCC 4.2, neutrophils 75%
CRP 34
History of HTN for years
On 11th Oseltamivir and nasal oxygen
On 14-19th Interferon
On 13th NIV assisted
On 20th Turn to invasive ventilation
On 30th High fever and shocked
VV-ECMO
Feb 7th Pulm haemorrhage
11th Pulm hypertension
15th Cardiac Arrest with high ventricular dysfunction
After death - lung tissue - mucosa and main airway damaged and bleeding

About COVID 19:
There must be human to human communication
Lots of family clustering
Viruses in blood and faeces but not in the CSF
Common symptoms: fever cough and fatigue
Some Gastrointestinal
Most severe and critical above 60 with HTN/ COPD etc
More than 80% had abnormal chest CT with bilateral infiltration
Also some had CT NAD when first presented and then got worse later.
More than half had reduced lymphocytes and the recovery of these were slow
Decrease in oxygenation index and increase in D dimer are common.
They treated all patients with Interferon alpha, Kaletra, Abidol, Ribavirin. No evidence for these at present.
In indication of early antibiotic use.

Evidence of infection after 7-10 days - use as appropriate
All severe patients get O2
2/3 patients got mechanical vent (non invasive and invasive)
The effect of vent in prone position has become routine treatment. Each time more than 16 hours.

40% of patients got low dose Methylpred.
Early enteral nutrition.

Lots of mucus in BALs one of the reasons for high mortality in critical patients
Late stage: reduced ventilation maybe because of mucus.

Prepare for tracheal ventilation at any time. Closed suction.
Psychological counselling and evaluation important for conscious patients.

Common complications: secondary infection, DVT, side effects of drugs, diarrhoea.

Dr Storti
North Italy

ICU's completely being destroyed by this outbreak
Having to work in a very different way!
You cannot deal with such a number of patients in a short time with ARDS by treating them as usual - you will be overwhelmed in hours.
Hospitals forced to completely reshape protocols and systems.
4x number of ITU beds having to be forced
Double time is 3d and 13 hours in Italy, 4d and 9h in Lombardy with a better health system
Need to be prepared to double your ITU beds in 4 days!
UK is 15 days behind us - GET READY! You have time to reshape and get ready. Use it.
Social distancing was proven in 1918 Influenza pandemic
Had to use CPAP as cannot ventilate them all. You cannot treat all the patients with proper standards of care.
Have to use ward beds as a step down unit. Took 3 days for logistical and structural changes.
After this 2 more 40 bed wards set up for providing oxygen.
High numbers of patients compared to beds but all red and yellow codes (severe Respiratory distress), the green and white codes disappear.
Lung CT: thickened pleura, ground glass shadows, pulm infiltration shadow, pleural effusion rare, more than two lobes affected. Cannot CT patients quick enough. Using lung ultrasound - Thickened pleural line, B lines, small consolidations, Focal B lines is the main feature in the early stage.

Questions:
Have they used the OR or just wards? They couldn't cope just enlarging ICU so have taken some of the theatres over next to the ICU. 5 ICU beds in Ophthalmology theatre. Many hospitals in Italy are now occupying OR beds. Now can't restart with elective surgery even if have some clear patients.

Where additional ventilators from? Do you have enough O2? Our government is getting a large number of ventilators as there is a gap between what is needed and what is available on the market. Trying to map all ventilators even if old ones in the hospital. Awaiting new ventilators next week. We had problems with oxygen supply sockets (60 patients on 15L/min). ER not designed for that. We had problems and forced to build new sockets! 20 new ones in ED to be able to ventilate. We decided to use CPAP directly connected to oxygen sockets (?).

Ethical considerations? Admission criteria? What will happen with the next wave with already long staying patients. This is a delicate question! If you are an ICU physician and know what the patient needs but can't provide it - you have to decide who may live and who may die. Not exactly the right question but unfortunately what I have seen which I have never seen before in 30 years is a worse case scenario. Who has to be ventilated. Who has the greatest chance to improve. You cannot guarantee the proper care for each. Physicians are tired because all treatments are different and exhausting. There's a chill going down a thousand spines for everyone listening.

In the UK it's clear we are not going to be using high flow techniques when intubating (CPAP HFNO). Concerns about spreading infective particles. Any comments? You are right! For sure it is a concern and issue but something that everybody would like to avoid but it's the only solution when you get 80 ARDS in 12 hours and not prepared!! You are overwhelmed if you use gold standard measures. Big hospital in Italy collapsed completely because of using CT and swab results - collapsed in 1 day! Your concentration in PPE in critical situation is a key point - definitely CPAP creates aerosol so high risk of spreading.

Final message: in the very first hours I tried to do my job referring to my standards but I needed to realise that If you receive too many patients at the same time with a critical cut in your team, if you try to be perfect and apply all the protocols all the time this will not work. Just try to survive and the best standards of care for the patients in front of you with the resources you have.

Dr Matt Davies
Anaes and Intensivist with Military Background
Assoc of Anaesthetists

Planning:
The pandemic plan is only a start. Perception from management to just wheel that out from H1N1! Nowhere near enough. Modelling produced a low number of patients but will be much higher. Enough space, equipment or people: possibly, no, no.
What can we learn from China and Italy.
We are NOT ready.
How do we break down a silo mentality where everyone goes about their own business. ITU and anaes must be one department.
The DoH assuming we are all starting from the same position - this is wrong, huge variation on PPE for instance. Some have no FFP3 masks.
To CPAP or not (HFNO?) - NIV may suit some patients but risky.
Where do we intubate? Varied plans nationally.
Am I catastrophising - yes but for good reasons.

Logistics:
Schools, individual isolation and illnesses.
PPE modelling 1 patient, 1 nurse 2hrs on/off, 1 doctor and 1 visitor and contact. 14 FFP3 masks for one day, if 14 days ventilation, 196 masks. 196 masks in 2 weeks for 1 patient. Add proning teams etc....
Drugs: 10 patients moderate sedation - run out of propofol in 11 days. Alfentanil runs out in 1 day.

What have we not thought about?
Oxygen piped capacity. Cannot meet the worse case demand. The rate of drop could be too quick for BOC. Will likely be more of a problem than we predicted.
PPE will/may run out. What then? You need to practice using PPE not just watch a video! Guidance being produced for visitors and will be controversial.
We cannot provide enough renal support (1/3 will get kidney injury very quickly). Consideration of mortality - high levels (greater than 90%).
People are being complacent and not thinking this way. Things are moving quickly.

What I keep getting asked?
Is viral load important for clinical staff?
Where can I sleep and eat if I cannot or do not wish to go home?
I am a carer for high risk relatives?
Why are electives going ahead as planned? This is moving relatively quickly - all elective work in Wales cancelled, will move quickly this week.
Ask all staff to self declare if high risk.
Can I go on annual leave over Easter (some currently have 20% consultant workforce on A/L)?
We need a theatre stop day to train who may be involved!! PPE, plans, fit testing.
How do we ensure (from NOW) staff are well rested and fed and looked after?

Clothing in and out of hospital and the treatment area? Overshoes advice now out.

Do what everyone else is doing!!!! Rapid sharing of advice from our colleagues!

Webcams please - on order in many places! Visitors and patient interaction may be useful also.

Isoflurane for sedation in OR? Pumps not available and propofol will be limited. We will also certainly be using vapours to preserve these. Not aware of any clinical evidence of harm or benefit. We have plentiful supply of those currently.

Is it sensible to be doing transfers in the early phase or should we just expand. Been discussed a lot. We will very quickly reach a period of stasis with no movement. Locally expand until we can't anymore.

Dr Robert Self
Wellbeing working party at Association

Wellbeing implications will go on a very long time.

What can we do individually?
Accept can't control what is happening. We can control what we see in the media. Without burying head in the sands we don't need updates every 30 minutes. Can come off social media.
Feeling stressed is normal and not a sign of weakness.
Use strategies that have worked in the past. Avoid unhelpful strategies like alcohol.
Rest food and exercise important.
Beware dramatic language and effect on colleagues. Can't hide this but be wary.

Pyramid of wellbeing - concentrate on basics: hydration, sleep, food.

Organisation: Allow personal needs. Remove non essential tasks.
Decompression time needed. Peer support. It's okay to say you're not okay!!
Need to model by senior staff.

Take homes - unprecedented. Look out for colleagues. Organisations and leaders support of staff is key to ongoing care.

Do we need to increase social isolation by the government? Will be a poll question to feed back to the government.

Dr Kathleen Ferguson

President Association of Anaes.

Leadership and Ethics
Shared information and mutual respect. Adaptive leadership needed. Not one leader at all times - the best leader at the best time.

Non clinical decision making dilemmas.
Uncharted territory. GMC guidance: highly challenging circumstances. Depart from normal procedures. Work with colleagues to keep people safe - us too.

Common questions with no answers yet:

- 28 week pregnant (or chronic illness) asking believe it's higher risk - worried about bringing up with CD: you might feel differently than your department.
- Shortage of PPE masks in our department. How do you advise me and my colleagues to respond to this threat?
- Uncomfortable to do Critical Care support - can I say no?

Needs a local ethical group to help. May be different group than research ethical groups. We need to address these now.

RCOG RCPCH - no evidence that pregnancy higher risk than anyone else.
What does it mean in practice? Would suggest pregnant staff are not front line incubators.

Dr Ganesh Suntharalingam
President of Intensive Care Society

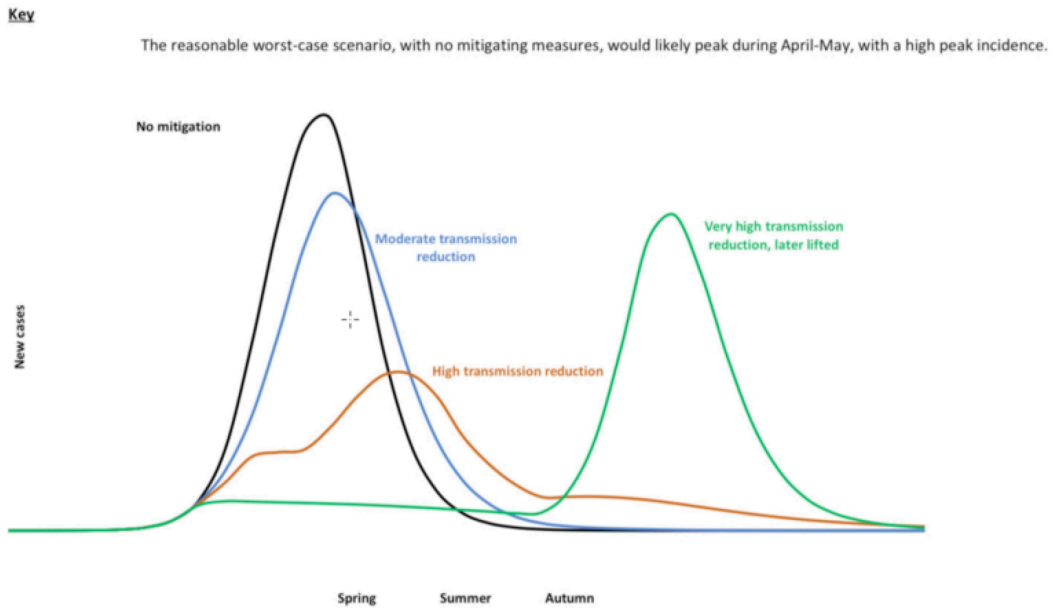
4 x High Confidence Infectious Disease Centres became 8. Now it's all about stay put where they are.
Is your trust planning to reduce or stop elective surgery? For training or operational reasons. Some done nothing. 12% sone for capacity, 17% stopped for training, 17% plans in waiting. 40% intent to stop when ready.

https://ics.ac.uk/ICS/Education/Wellbeing/ICS/Wellbeing.aspx?hkey=92348f51-a875-4d87-8ae4-245707878a5c

Coming soon:
- PPE: tinyurl.com/CovidPPE (Government definitive link)
- NIV: BIPAP and HFNO being aerosol producing procures - currently you can do it but do it in a side room
- Oxygen supply: No guarantee it won't run out. Guidance drafted this weekend and will be out soon.
- Antivirals: due this weekend: consideration Remdesivir (tight quantities)

only in single organ failure and no CVS shock, for compassionate basis/ Kaletra (probably too late once get to ITU). Work will be out for top 5 things to consider but without any real accepted treatment.
- Some trials ongoing - ISARIC 4c, REMAP-CAP and some New Trials on antivirals and immunomodulators.

English:
Most have had mild disease
Easy 6012 is the worry period
Rapid deterioration happens.
Mainly just ventilatory support and oxygenation
Focus now is maximise ventilation surge capacity - the aim being to double and double again (1/3 of beds for ventilation).
BOC asked to quadruple their production. Military drivers.
If maximum surge will be single organ respiratory support.
No new drug treatments planned outside use in research trials.



Will the colleagues have our back when we have to work outside of normal framework - yes! Do what you need to do!

Free Webinar to watch on the website by Monday. If you want to watch this all. It's 2.5 hours though.