

Analysis Of Mortality Following Trauma And Orthopaedic Surgery At The Peak Of COVID-19 Pandemic

Editor

The 2019 novel coronavirus (COVID-19) or the severe acute respiratory syndrome corona virus 2 (SARS-CoV-2) as it is now called is highly contagious. Asymptomatic

carriers can transmit the virus during incubation time, making identification and prevention of infection more challenging¹. Following lockdown in the UK, Trauma and Orthopaedic surgery practise has transformed along various guidelines by The Royal College of Surgeons (RCS), British Orthopaedic Association (BOA) and

Public Health England (PHE). There has been a noticeable reduction in Accident and Emergency presentations and overall Trauma admissions².

Multicenter studies, conducted over many countries have reported high postoperative pulmonary complications and an alarming rate of mortality in patients with perioperative SARS-

Table 1 Characteristics and laboratory finding of the nine patients that had mortality during the peak of the pandemic

Sr. No	Age	Sex	ASA	Surgical Procedure	COVID-19 Test Status	Time to surgery (hours)	Time to death (days)	Comorbidities	Complications	Pre-op CRP	Post-op CRP	Pre-op Lymphocytes count	Post-op Lymphocytes count	Pre-op WBC	Post-op WBC
1	99	F	3	IM Fixation of the Femur for NOF#	Negative	62:23	15	Atrial Fibrillation	None	115	122	0.3	0.3	13.6	13.4
								CKD							
								Hypertension							
2	92	F	3	Hemiarthroplasty	No symptoms	20:57	49	Alzheimers disease	Aspiration	83	187	0.4	0.7	7.5	9
								Previous Breast CA							
								Uterine CA							
3	77	M	4	Hemiarthroplasty	Negative	19:35	28	Parkinsons Disease	None	32	98	0.7	0.7	18.1	21.4
								Autoimmune-hemolytic anaemia							
								Advanced dementia							
								Nephrectomy							
4	92	M	3	Hemiarthroplasty	Positive	37:95	35	Stroke	None	<4	78	0.8	0.9	12.2	8.1
								Bowel CA							
								Hypertension							
5	89	F	3	IM Fixation of the Femur for NOF#	Positive	31:43	24	Parkinsons Disease	None	<4	201	1	0.7	9.2	8.2
								Dementia							
								Osteoporosis							
								frailty							
6	92	F	3	IM Fixation of the Femur for NOF#	Negative	11:07	6	Hypertension	None	<4	129	0.7	0.4	7.8	6.1
								Atrial Fibrillation							
7	91	M	4	Hemiarthroplasty	Positive	36:33	29	Prostate CA	None	<4	128	0.5	0.4	11.5	11.2
								Dementia							
								Hypertension							
								Type 2 Diabetes							
								Atrial Fibrillation							
8	92	M	4	Hemiarthroplasty	Negative	23:10	6	Hypertension	None	26	88	0.2	0.5	18.4	6.2
								CKD							
								Heart Block							
9	97	M	4	Proximal Femoral Nail	Negative	25:21	2	Metastatic CA of the prostate	None	7.2	116	1	0.5	6.6	9.6
								CKD							
								Atrial Fibrillation							
								Paget's disease							
								Hypertension							
								GORD							

#: fracture; ASA: American society of anesthesiologists; CA: cancer, CKD: Chronic kidney disease; CRP: C reactive protein; F: Female; GORD: gastro-oesophageal reflux; M: Male; NOF: Neck of femur; WBC: White blood cells.

CoV-2 infection^{1,3}. During the same period our unit has maintained a prospective database of Trauma and Orthopaedic surgical activity. We performed 206 trauma and orthopaedics surgical procedures during the peak of the pandemic (01/03/2020–31/05/2020). These procedures were considered urgent and essential following a multi disciplinary team (MDT) discussion. Our data on mortality following surgical procedures is presented in *Table 1*. Nine patients died following surgery. Three patients were COVID-19 positive, post operatively. One patient did not have any symptoms at time of presentation and surgery hence was not tested; five patients who died were COVID-19 negative on testing.

We have some concerns about the published data on the outcomes of surgery during this period, in literature. Firstly the clinical diagnosis of COVID-19 patients was not standardized. The guidance and criteria for testing suspected patients with COVID-19 continued to evolve during the entire period. There is diagnostic uncertainty regarding false negative reverse transcription polymerase chain reaction in detection of

SARS-CoV-2 from nasopharyngeal specimens⁴. Finally there is the concern of COVID-19 infection being transmitted by asymptomatic carriers during the incubation period⁵, especially as some are not being tested. Comparing mortality of patients that tested positive or negative may not be entirely accurate. This may lead to spuriously high and alarming mortality rates. This however has not been our experience. We suggest it is more useful to compare and evaluate a single centres practice.

When hospitals resume routine surgery, it is likely to be in environments that remain exposed to SARS-CoV-2^{1,2}. With an aim and drive to normalize services and practice, we suggest it might be helpful to share mortality rate of the centre in totality, rather based on testing alone. This will prove useful in preparation of an imminent second wave.

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DOI: 10.1002/bjs.11929

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