The impact of the first wave of the COVID-19 pandemic on general surgery fellowships

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Introduction

– Cessation of non-essential surgeries to expand healthcare capacity during the COVID-19 pandemic (1-3).

– 1-2 year-long fellowships may be more severely impacted by reduction in surgical volume.

– Understanding of the magnitude of the impact of the COVID-19 pandemic on fellowship training is needed to develop plans to mitigate its effect (4).

Study aims: The objective of this study is to estimate the impact of the first wave of the COVID-19 pandemic on the operative exposure of general surgery fellowship trainees.

Methods

Institutional database and retrospective chart review

Inclusion Criteria
–All elective and emergency general surgery operations
–Patients ≥18 years-old
–3 academic centers of the McGill University Health Center
–MIS, Bariatric, HPB or Colorectal Surgery fellowship trainees present (5-6)

Pandemic period: March-June 2020
Pre-pandemic period: March-June 2019

Outcomes
Attendance: The total number of cases attended by at least one trainee
Operating hours: the total time spent in the OR by trainees

Impact: Percentage of baseline (2019)

Results

Table 1. Trainee operating room exposure as total cases attended and overall operating time (hours) during the pre-pandemic and pandemic periods.

Fellowship Designation	2019	2020	Percent of baseline
OR attendance (cases)	582	407	69.9%
Bariatrics	133	88	66.2%
MIS	85	12	14.1%
HPB	132	86	65.2%
Colorectal	114	86	75.4%
Overall operating time (hours)	1280.1	975.3	76.2%
Bariatrics	210.9	145.9	69.2%
MIS	155.1	27.0	17.4%
HPB	392.7	264.7	67.4%
Colorectal	252.7	225.0	89.0%

OR: Operating Room; MIS: Minimally Invasive Surgery; HPB: Hepatobiliary and Pancreas Surgery

Results

Table 3: Index cases attended by fellowship level trainees during the pre-pandemic and pandemic periods.

Fellowship Designation	Procedures	2019	2020	Percent Baseline
Bariatrics	Restrictive	95	21	22.1%
	Malabsorptive	45	35	77.8%
	Complications	10	8	80.0%
	Total	150	64	42.6%
MIS	Laparoscopic Foregut	7	1	14.3%
	Laparoscopic Inguinal Hernia Repair	29	7	24.1%
	Laparoscopic Ventral Hernia Repair	12	1	8.3%
	Laparoscopic Solid Organ	10	2	20.0%
	Total	58	11	19.0%
HPB	Liver	33	25	75.8%
	Pancreas	14	19	135.7%
	Advanced Biliary	3	5	166.7%
	Donor Hepatectomy[a]	5	2	40.0%
	Liver Transplant*	12	7	58.3%
	Total	64	58	90.6%
Colorectal	Colon	38	22	57.9%
	Rectum	13	26	200.0%
	Perianal and incontinence surgeries	32	18	56.2%
	Pouch Procedures	0	2	NA
	Total	83	68	81.9%

Donor hepatectomy and liver transplants are not part of index cases in hepatobiliary and pancreas fellowship, but they are listed as contributary to complex liver procedure. MIS: Minimally Invasive Surgery; HPB: Hepatobiliary and Pancreas Surgery

Conclusion

– MIS trainees were more severely affected (14% of pre-pandemic cases) and colorectal trainees were the least affected (75% of pre-pandemic cases) during the COVID-19 pandemic.

– This impact was significantly reduced in programs with a high proportion of cancer cases (i.e., colorectal and HPB).

– Observed patterns are highly dependent on local policies regarding surgical prioritization.

– These trends are important to inform mitigation strategies tailored for each level of training.

Literature cited

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