

Impact of the COVID Pandemic on Mohs Micrographic Surgery: A Nationwide Survey

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ABSTRACT

Background: At the onset of the COVID-19 pandemic, many Mohs micrographic surgeries (MMS) were delayed over concerns for propagating further infectious spread and scarcity of medical resources.

Objective: To assess the impact of the pandemic on MMS and the treatment of skin cancer.

Methods and Materials: An electronic survey was sent to fellowship trained Mohs surgeons to assess patient outcomes, practice viability, and physician sentiment related to performing MMS during the COVID-19 pandemic.

Results: Of the 303 respondents, 82% reported declines in case volume for at least 3 months, and average case difficulty increased for 69% of surgeons following these delays. Instances of local tumor spread following delays were seen by 69% of respondents, and 20% noted cases of regional or systemic metastasis. Only 8 cases of staff testing positive (and 7 cases of patients) were reported, and 97% of respondents felt comfortable performing MMS during the pandemic. Private practice surgeons more often viewed practice restriction recommendations negatively initially (42% vs 26% in academics, $P=0.03$) and in hindsight (63% vs 36% in academics, $P<0.001$).

Conclusions: Mohs surgeon's ability to minimize spread of COVID-19 during routine patient care, alongside potential risks of delaying treatment of skin cancers, should be considered in future recommendations for patient care.

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INTRODUCTION

Initial uncertainty during the COVID-19 pandemic led most medical organizations to recommend postponing all non-essential visits.¹ Unfortunately for patients with newly diagnosed skin cancers, many Mohs surgeries were included in this delay. With most procedures now resumed, it is possible to assess the impact of these recommendations.

An IRB approved 15-question survey was created to assess patient outcomes, practice viability, and physician sentiment. The survey was electronically sent to fellowship trained Mohs surgeons practicing in the United States six months after the onset of the pandemic. Data was collected using redcap software and analyzed using Fisher's exact tests, with $P<0.05$ considered statistically significant.

A total of 303 surgeons completed the survey (73% response rate) with an average age of 46.3 ± 10.6 years. Respondents were mostly in private practice (81%) and suburban settings (57%, Table 1). Over 80% of respondents noted a decline in case volume for at least 3 months (Figure 1). Average case difficulty increased following treatment delays for 68.5% of surgeons, and

suburban/rural surgeons were most impacted (76.3% vs 59.6% in urban settings, $P=0.027$). Adverse outcomes following delays were common: 69% reported cases of local tumor spread, 49% reported cases of advancement in tumor stage, and 20% reported cases of regional or systemic metastasis (Table 1).

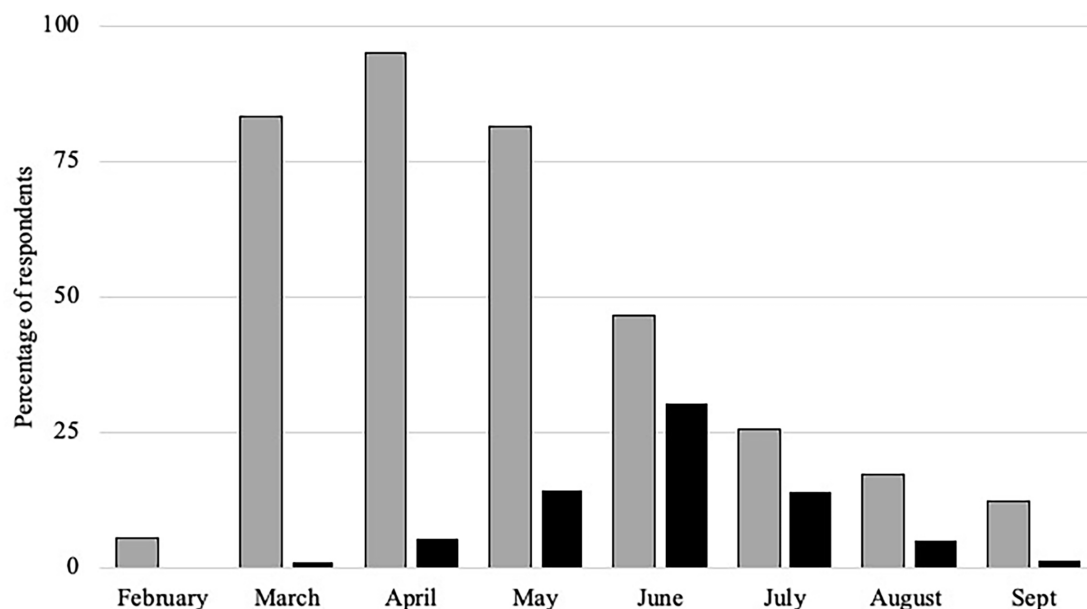
Pandemic delays were felt to be overall harmful to patients (78% of respondents) and contributed to worsened emotional health and anxiety (76% of respondents). At the onset of the pandemic, 45% of surgeons were in agreement with practice restrictions (39% in disagreement). In hindsight, only 29% of surgeons now agree with initial recommendations (58% in disagreement, Table 1). Overall, 39% of respondents had a less favorable view of recommendations now than they initially did (versus 4% reporting a more favorable view). Private practice surgeons more often viewed these recommendations negatively initially (42.2% vs 25.9% in academics, $P=0.03$) and currently (62.8% vs 35.8% in academics, $P<0.001$).

Incidences of COVID infection were rare: 8 respondents (2.6%) reported cases of staff testing positive and 7 respondents (2.3%) reported cases of patients tested positive following their procedure. No further spread was reported in these cases. Each

TABLE 1.

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n	303	Did you experience any of the following? (%)	
Gender (% male)	62.0	Local tumor spread necessitating a more difficult procedure	69.0
Age (yrs.)	46.3±10.6	Advancement in stage of tumor	49.2
Practice type (%)		Regional or systemic metastasis of tumor	19.5
Academic	19.4	Initial agreement with recommendations (%)	
Private	81.6	Complete disagreement	12.4
Practice setting (%)		Moderate disagreement	26.8
Urban	33.6	Neutral	15.8
Suburban	57.0	Moderate Agreement	29.9
Rural	9.4	Complete Agreement	15.1
Did average cases increase in difficulty? (%)		Current agreement with recommendations (%)	
Yes	68.5	Complete disagreement	24.1
No	31.5	Moderate disagreement	33.9
Impact on practice viability (%)		Neutral	13.6
No impact	20.5	Moderate Agreement	17.3
Mildly	37.7	Complete Agreement	11.2
Moderate	30.3	Change in agreement (%)	
Very	8.4	Less in agreement currently	38.7
Severe	3.0	The same level of agreement	57.8
		More in agreement currently	3.6

FIGURE 1. Impact of MMS Case volume and difficulty during the COVID-19 Pandemic



Gray line denotes the percentage of respondents who reported a decrease in case volume each particular month in the year 2020. Black line denotes the percentage of respondents indicating which month they first noticed an increase in case difficulty following treatment delays.

of these respondents, and 97% of respondents overall, felt they could take reasonable precautions to prevent COVID spread and were comfortable performing surgeries. Practice viability was moderate to severely impacted by these delays for 42% of respondents (Table 1).

While skin cancer surgery is not typically considered “emergency” care, these current results demonstrate that delays in care may lead to increases in local tumor spread and upstaging of skin cancers. Combining the risks of delaying treatment alongside infrequency of spread amongst patients and staff, it is evident that surgeries should proceed and can be performed safely. Future recommendations for reducing treatments should take into consideration these potential negative implications.

DISCLOSURES

The authors have no conflicts of interest to disclose

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