
85 Changes in Burn Surgery Operative Volume and Metrics Due to COVID-19

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Introduction: Due to COVID-19, hospitals have had to undergo drastic changes to operating room (OR) policy to mitigate the spread of the disease. Elective surgeries were cancelled, and some ORs were repurposed to help withstand a surge of COVID-19 patients. Given these unprecedented measures, we aim to look at the changes in operative volume and metrics of the burn surgery service at our institution.

Methods: An IRB-approved single-institution retrospective review was conducted by querying our institutional OR database. We obtained case lists and OR metrics for the months of March to May for 2019, 2020, and 2021, which correspond with pre-COVID, early COVID (period without elective cases), and late COVID (period with resumed elective cases). Inclusion criteria were cases related to burns. These cases were then divided into the following groups: excision only, grafting only, excision and grafting, laser scar procedures, secondary reconstruction without grafting or flaps, secondary reconstruction with grafting, and secondary reconstruction with flaps. Types of cases and operative metrics were compared amongst the three time periods.

Results: The total number of cases performed by the entire hospital during 2019, 2020, and 2021 was 2375, 1184, and 2265 respectively. During those times, the burn surgery service performed 174, 124, and 212 total cases (138, 103, and 114 burn related cases) respectively. Compared to the hospital, the burn service had a smaller decrease in volume during early COVID (28.7% vs. 50.1%) and exceeded pre-pandemic volumes during late COVID (+21.8% vs. -4.6%). There was a significant increase in excision and grafting cases in early and late COVID periods (41, 84, 74 respectively; $p < .0001$ and $p < .002$). There was a significant decrease in laser scar procedures that persisted even during late COVID (69, 0, 14 respectively; $p < .0001$). The projected and actual lengths of cases significantly increased and persisted into late COVID ($p < .01$). The average length pre-COVID and late COVID were 109.9 ± 78.5 and 138.2 ± 79.2 minutes.

Conclusions: COVID-19 related OR closures lead to an expected decrease in the number of overall cases and elective cases. However, there was no significant decline in the number of burn specific cases performed. The elective cases were largely replaced with excision and grafting cases and this shift has persisted even after elective cases have resumed. This change is also reflected in increased operative times.

86 Outcomes for 43 Hand Burns Treated with 2:1 Meshed and Epidermal Autografts with Abundant Donors

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Introduction: Our group has previously reported our experience in treating hand burns with 2:1 meshed autografting and simultaneous application of autologous skin cell suspension (ASCS) even when donor sites are abundant. Here, we sought to expand on this experience. We hypothesized that the use of 2:1 meshed autografting and ASCS (MA/ASCS) would provide comparable outcomes to hand burns treated with sheet graft.

Methods: A retrospective review was conducted of all subjects operated on for deep 2nd and 3rd degree hand burns at our ABA-verified burn center from April, 2018 to May, 2021. Exclusion criterion was a burn of >20% TBSA. The cohorts were those subjects treated with MA/ASCS versus those treated with split thickness sheet, pie-crust, or 1:1 meshed autograft alone (STAG). Outcomes included proportion returning to work (RTW), length of time for RTW, and time to wound closure. Mann-Whitney U test was used for comparisons of continuous variables, and Fishers Exact test for categorical variables. Values are reported as median and interquartile range.

Results: Sixty-eight subjects fit the study criteria (MA/ASCS n=43, STAG n=25). The MA/ASCS group was significantly older than the STAG cohort (45.5 yrs [32, 59.25] vs 35 [28, 45], $p=0.013$) with larger %TBSA burns overall (11.5% [7, 16.25] vs 2% [1, 3], $p < 0.0001$), and larger hand burns (186 cm² [124.75, 330.5] vs 104 cm² [56, 164], $p=0.001$). Comparable results were seen between MA/ASCS and STAG, respectively, for time to wound closure (8 days [7, 13] vs 8 [6, 14], $p=0.48$), proportion RTW (51% vs 64%, $p=0.33$), and days for RTW among those returning (38 [29.25, 62.75] vs 34.5 [20.75, 57], $p=0.471$). Fractional ablations were performed in 14% of the MA/ASCS group and 12% of the STAG group.

Conclusions: Despite being significantly older, having larger hand wounds, and larger overall wounds within the parameters of the study criteria, patients with 20% TBSA burns or smaller whose hand burns were treated with 2:1 mesh and ASCS overspray had comparable time to wound closure and return to work as subjects treated with 1:1, pie-crust, or sheet STAG.