Mohs Micrographic Surgery for Melanoma Cheat Sheet

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MOHS MICROGRAPHIC SURGERY FOR MELANOMA (MMS-M)

- MMS for cutaneous melanoma (CM) has risen by 304% from 2001-2016, despite consistent recommendations from the National Comprehensive Cancer Network (NCCN)
- 2022 meta-analysis: significantly lower recurrence rate for all types of CM observed with MMS-M (<1%) compared to staged excision (SE) (3%) and wide local excision (WLE) (7%)
- Local recurrence rates for CM treated with MMS-M: 0-2.6%
- MMS-M has noninferior survival outcomes compared to WLE
- Despite comparable cure rates and cost-effectivity to WLE, MMS has been relatively slow to gain acceptance
- NCCN 2021 Guidelines: MMS-M indications include large and/or poorly defined MIS, lentigo maligna, lentigo maligna with a minimally invasive component, acral lentiginous

2021 AMERICAN COLLEGE OF MOHS SURGERY (ACMS) MEMBER SURVEY

- 50% of current ACMS members practicing MMS-M received fellowship exposure
- 60% of respondents treat early invasive T1 CM
- 20% of respondents treat more invasive T2+ CM
- If more invasive CM, MMS-M surgeons excise wider margins during initial MMS stages

LIMITATIONS

- Immunohistochemical (IHC) staining time constraints

INITIAL MARGINS

- 5 mm margins associated with lower rate of recurrence

TISSUE PROCESSING

- Numerous approaches, but most efficacious involves two crucial steps:
  - Step 1: Debulking of central tumor portion for immediate upstaging evaluation via frozen sectioning
    - Ideally performed prior to closure
  - Step 2: Complete peripheral and deep microscopic margin evaluation utilizing IHC
    - Recurrence rate lower with IHC (0.49%) compared to without IHC (3.37%)

PERTINENT IHC STAINS

- Primary CM IHC stain utilized by almost all MMS-M surgeons
  - MART-1/Melan-A
  - MITF
  - S100
  - SOX-10
  - HMB-45
  - Mel-5

ANATOMIC LOCATIONS

- Head & Neck
  - Overall lack of prospective comparative studies analyzing local recurrence in CM treated with MMS, SE, or WLE
  - Lower overall recurrence rates with MMS or SE compared to WLE (MIS & invasive)
  - Local recurrence rates of early-stage (MIS, T1a) CMs are lower with MMS-M (<1%) compared to SE (2.5%) and WLE (8.7%)
- Trunk & Extremity
  - No difference in overall survival for T&E CMs treated with MMS over WLE
  - MMS-M for T&E CM resulted in 99.86% local control and overall disease-specific death rate superior to WLE
  - Overall low quality of evidence available for concluding lower local recurrence rates for T&E CMs treated with MMS-M compared to WLE