

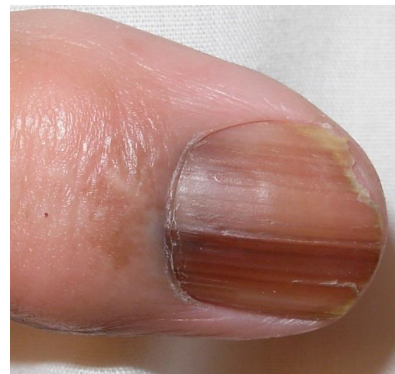
Tumor Board

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Subungual Melanoma



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Subungual melanoma



- May not be sun related
- Variant of acral lentiginous melanoma, arising from melanocytes in the nail apparatus
- 3% of all melanomas in lightly pigmented skin
- Up to 30% melanomas in darkly pigmented skin
- Most common in 7th decade of life for men, 6th decade for women
- Incidence of melanoma is increasing in all populations

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Subungual melanoma

- Great toe and thumb are most commonly affected digits (75-90%)
- Nail unit melanoma is often diagnosed late
 - Median Breslow depth 3.2 -4.0 mm
 - 5 year survival 18-58%
- Early detection and treatment improve survival



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Subungual melanoma

USUALLY

- Dark vertical pigmented band
- Wider than 3 mm
- Proximal widening and irregular borders
- Nail dystrophy
- Hutchinson sign (not pathognomonic)



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One month daily vinegar soaks

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Pathology: Onychomatricoma

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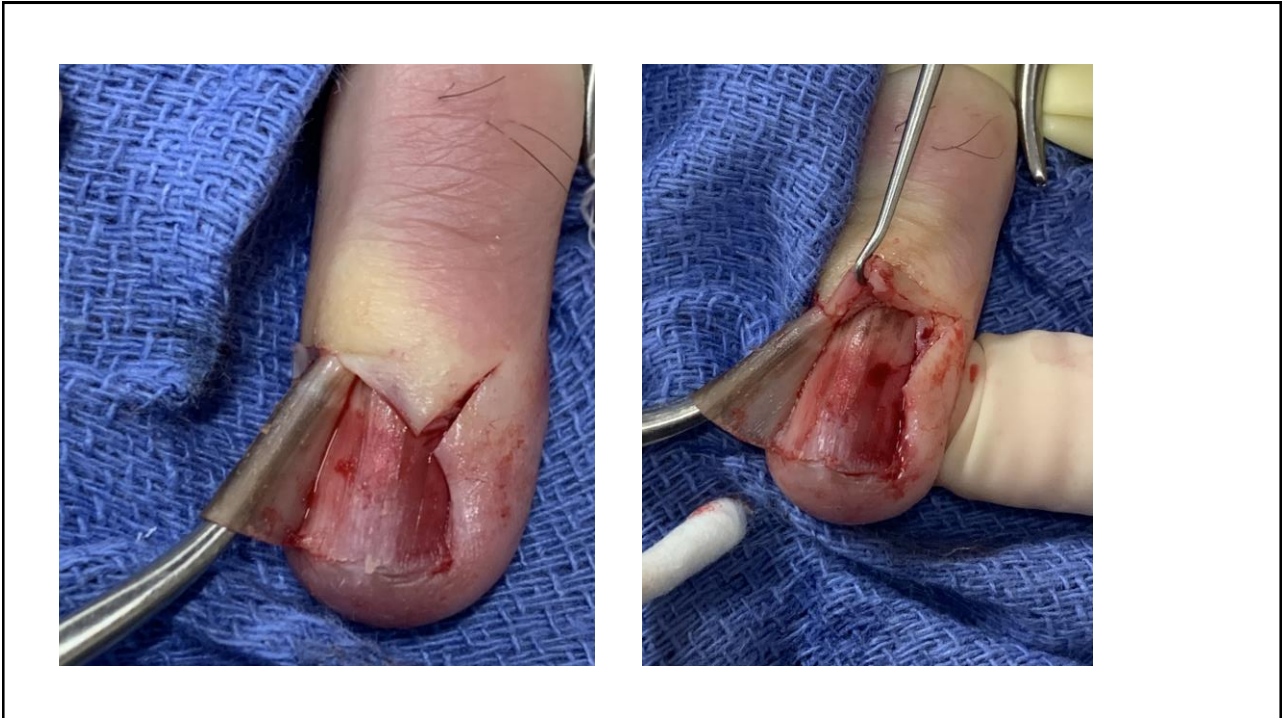
7/20 2-3 year history nail pigmentation
Started as two gray lines – widened and darkened

2018 - punch biopsy Longitudinal Melanonychia/lentigo
Continued to darken and widen

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Pathology July 2020

Uniform lentiginous proliferation sox 10 negative -
Lentigo/LM

- Presented at tumor board and grand rounds
- Recc: another bx, observe, or en bloc excision



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- 3/21 – observed
Two streaks recurred, smaller
no nail dystrophy
- 5/22 streaks stable but decision for
en bloc excision of nail unit



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May 2022

en bloc excision of nail unit – scar and lentigo
Lentiginous pigmentation and melanophages
no melanoma

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Subungual Melanoma



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Acral spindle cell amelanotic melanoma
2.0 mm



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Amelanotic melanoma



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Amelanotic melanoma of the nail unit

- 15-25 % of all subungual melanoma
- Great toe and thumb most commonly involved
- Often a red nodule with nail dystrophy
- Poor prognosis due to misdiagnosis, delay in diagnosis
- Dermoscopy can be helpful – atypical vascular pattern, linear and irregular vessels, and milky red areas



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Melanoma of the nail unit - TREATMENT

Evolving

MCP/MP/MT amputation

Proximal Joint Amputation

Distal joint amputation

Amputation associated with significant impact- loss of function, poor cosmesis, phantom pain, decreased quality of life

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Several studies – No evidence that more proximal amputation improves outcome, even controlling for Breslow thickness

Not all SUM have histologic invasion of periosteum or bone

Breslow >4.0mm has higher likelihood of invasion into periosteum or bone

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Mohs Micrographic Surgery is Equivalent to Nail Unit Excision or Amputation for Melanoma In Situ of the Nail Unit: A Systematic Review and Meta-Analysis

Le M, Gabrielli S, Zloty D.
Dermatol Surg 2023;49:755-758

Local recurrence of nail/subungual MIS treated with MMS and NUE comparable to amputation.

No cases of metastasis or mortality with any method

Consider digit sparing surgery for nail MIS

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Jo G et al. Functional surgery vs amputation for in situ or minimally invasive nail melanoma: a meta – analysis
JAAD 2019;81 (4)917-22

- Meta analysis comparing WLE with amputation for in situ and invasive melanoma ≤ 0.5 mm nail unit
- No significant differences in rate of local recurrence, metastases, or mortality

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Melanoma in situ or minimally invasive melanoma (≤ 0.5 mm depth)

- En bloc excision
- Mohs micrographic surgery with immunohistochemistry
- Nail matrix and periungual soft tissues are removed
- Digit sparing –bones and joint intact
- Graft or second intention healing
- Narrow margins
 - Distance from proximal matrix to extensor tendon 0.8mm
 - Distance from deep base of matrix to phalanx < 1.0 mm

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Jellinek N, Bauer J. En Bloc excision of the Nail Dermatol Surg 2010;36:1445-1450

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Oh, et al. Risk of recurrence of nail unit melanoma after functional surgery vs amputation

J Am Acad Dermatol 2023;88:1017-1023

- 14 year study 140 patients
- Amputation if bone involvement, otherwise underwent functional surgery (entire nail unit plus 3-4 mm beyond plate and matrix)
- No difference in local recurrence
- Breslow thickness >0.8mm greater risk of recurrence and distal disease
- Risk factors – male, greater Breslow, higher T stage, amelanotic, ulcer, and nodules – higher risk recurrence and distant disease
- Conclusion FS as treatment for NUM less than 0.8mm

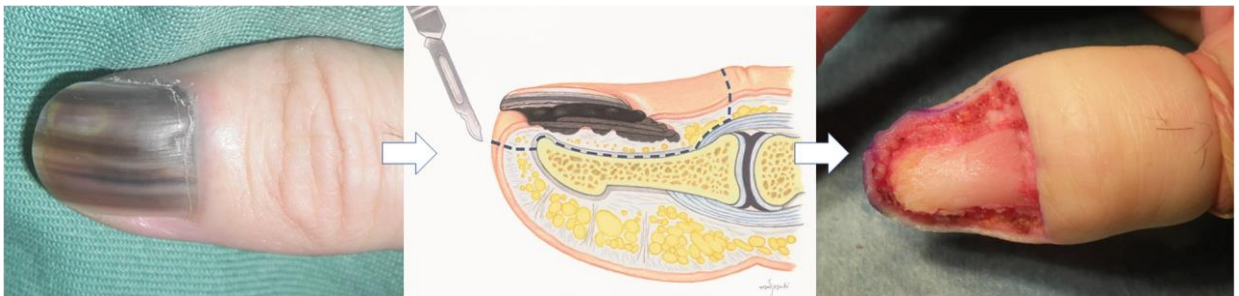
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Confirmatory Trail of non-amputative digit preservation surgery for subungual melanoma: Japan Clinical Oncology Group study (JCOG1602,J-Nail study protocol)

- First prospective trial to confirm safety and efficacy of digit sparing surgery
- Subungual melanoma without bony invasion or distant metastasis
- Multicenter, single arm trial
- En bloc resection of tumor, nail apparatus, and periosteum
- Primary analysis of data 2029

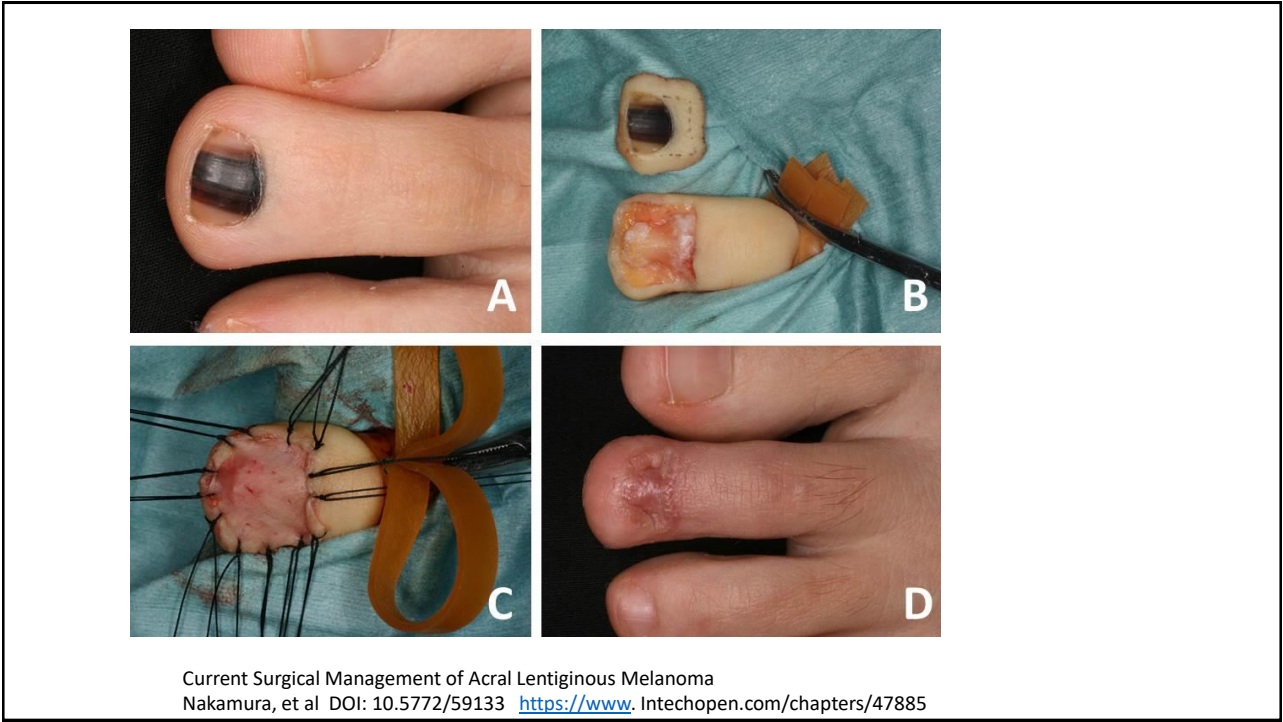
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En bloc excision of the nail unit

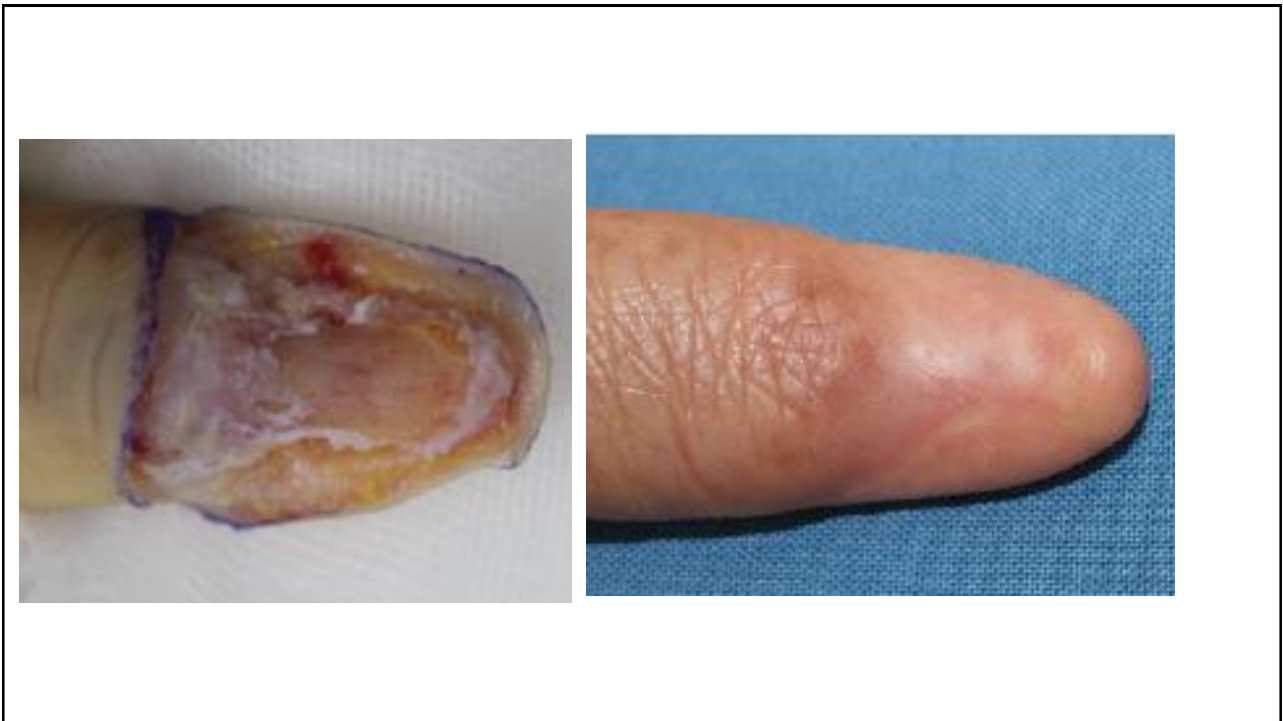


Tanaka, et al. BMC Cancer (2019) :1002

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Melanoma nail unit- Management

- Nodal evaluation- palpation
- Sentinel Lymph Node Biopsy- consider
 - 1.0-4.0mm
 - 0.75mm if ulceration
- Imaging if palpable nodes, and depth >4.0 mm

- Careful follow-up

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Metastatic melanoma of Nail unit/ALM

- Immunotherapy with check point inhibitors
 - Very few studies
 - Lower response to immune checkpoint blockade noted in ALM and SUM
 - May be due to lower number of tumor infiltrating lymphocytes, lower PDL-1 expression, and lower mutational burden compared to other melanomas

- Mutational profile of ALM
 - BRAF only in 15% compared to up to 50% sun exposed melanomas
 - Other mutational differences noted with KIT, NRAS, NF1,CDK4, TERT

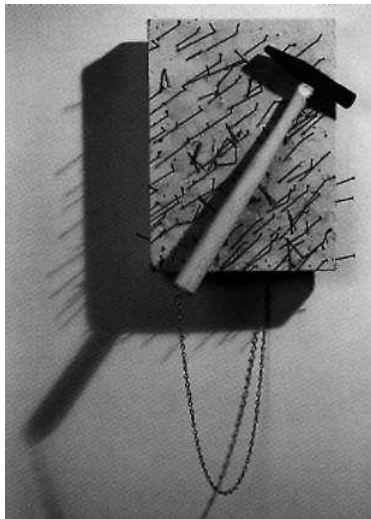
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Subungual melanoma - SUMMARY

- Early diagnosis and treatment improve survival
- Matrix shave biopsy is an excellent technique for diagnosis of superficial melanoma with minimal risk nail deformity
- Consider digit sparing surgeries for in situ and superficial melanoma
- Many subungual melanomas are amelanotic



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Thank you for your attention!

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