

Elective Lymph Node Dissection in Malignant Melanoma

Dr. Janix M. De Guzman
Presenter

Premise

In patients with malignant melanoma with a clinically negative lymph node,

Is lymph node dissection indicated?

Lymph node dissection

Goals:

- accurate staging ?
- improve survival rate ?
- prevent spread ?

The Benefits

- Lymph node involvement is defined in AJCC as:
 - N1 metastasis 3 cm or less in greatest dimension in any regional lymph node
 - N2 metastasis more than 3 cm in greatest dimension in any regional lymph node and/or in-transit metastasis

AJCC staging System for Melanoma, Showing Reported 5-Year Survival Rates for Each Stage¹

AJCC stage	TNM categories	5-year survival rate (%)
I	T1N0M0	90
	T2N0M0	
II	T3N0M0	70
	T4N0M0	
III	Any T, Any N, M0	50
IV	Any T, Any N, M1	20

5-year survival rate of clinically negative but
pathologically positive nodes ²⁻³

50%

prospective randomized trials (level 1A evidences)
 failed to show a benefit for elective lymph node
 dissection in terms of survival ⁴⁻⁶

	# of patients	Study groups	stratification	Significance demonstrated In survival rate	% change identified in trial
Veronesi, et al	553	ELND Delayed	none	none	none
Cascinelli, et al	252	ELND observe	Gender, site histology	none	none
Balch, et al	740	ELND observe	Age histology	none	none

Breslow, measured depth of invasion – predictor of nodal metastasis⁷

Breslow's thickness	Likelihood of nodal metastasis	5-year survival (clinically negative node)
In situ	0	100%
≤0.75 mm	5%	96%
0.76 – 1.5 mm	10-20%	87%
1.51 – 4 mm	25-30%	70%
>4 mm	70%	47%

What can we offer after adequate staging?

	# of patients	Study groups	stratification	Significance demonstrated
Creagan⁸	232	IFN observe	none	none
Grob⁹	499	IFN control	none	Relapse-free interval
Pehamberger¹⁰	311	IFN 4 observe	none	Disease free interval
Kirkwood¹¹	642	High dose Low dose observation	Stage nodes	none

Regarding Spread

- ELND may not prevent recurrent nodal disease in the dissected basin.¹²
- Melanoma spreads via both lymphatic channels and the blood stream.
- Some patients will develop distant metastasis without manifesting clinical node involvement. For deeper (>4mm) lesions 70% chance of distant metastasis.¹³

The Risks¹²

- Seroma
- Infection
- Skin Necrosis
- Lymphedema
 - Once it develops, no effective cure. Treatment are available that palliate symptoms, but these must be continued for the patients lifetime.

Morbidity

- Difficult to justify in patient who has undergone lymph node dissection with no histologically positive nodes.

Elective lymph node dissection, Is it indicated?

NO.

Reasons in Summary:

1. absence of any apparent impact on survival among patients who underwent ELND
2. no available effective adjuvant treatment
3. May not prevent recurrent nodal disease in the dissected basin.
4. Patients subjected to significant risks without concrete benefit.

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