Isolated Limb Infusion - A viable treatment for unresectable melanoma or SCC confined to a limb as an alternative to amputation

Contemporary uses and Outcomes of Isolated Limb Infusion (ILI) for treatment of Melanoma in New Zealand

INTRODUCTION
ILI allows delivery of high dose chemotherapy to a limb in order to treat unresectable melanoma or squamous cell carcinoma (SCC). It is used for limb salvage when immunotherapy or targeted therapeutic options are exhausted (1) and amputation is the only alternative.

AIMS
1) To describe the contemporary use of ILI at New Zealand's national centre as a treatment for unresectable melanoma and SCC confined to a limb.
2) To evaluate the clinical response and adverse events of ILI.

METHODS:
A retrospective review of all patients referred to Waitemata DHB between 2010-2020.
Rigid protocol for ILI with cytotoxic agents (2), using melphalan and actinomycin D.
Response was determined using the WHO criteria(3) and toxicity was assessed using the Wieberdink Scale(4).

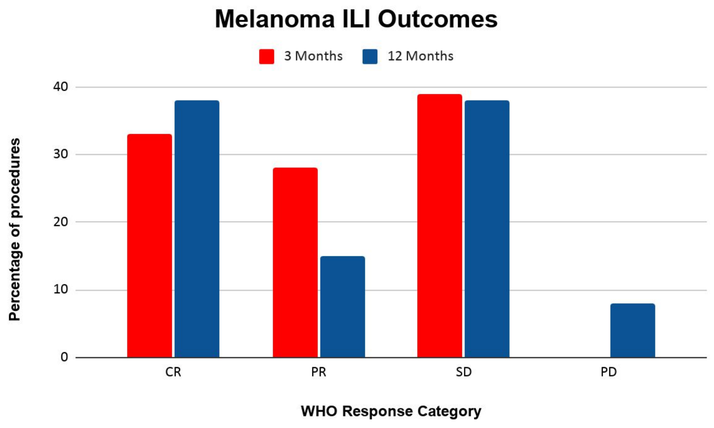
Post Operative Management
Involves 48 hours of limb elevation and bed rest. Hourly circulation observations. Serum CK measurements on the night of the procedure and daily thereafter. 1month of aspirin is given on discharge.

RESULTS
24 procedures in 19 patients. The mean age of patients were 72 years.

Clinical Response

Melanoma overall response rate was 63%.

	Percentage of procedures (%)
CR	44
PR	19
SD	38
PD	0



SCC
ILI achieved 80% CR at three months and 100% CR at 12 months (x 5 limbs).

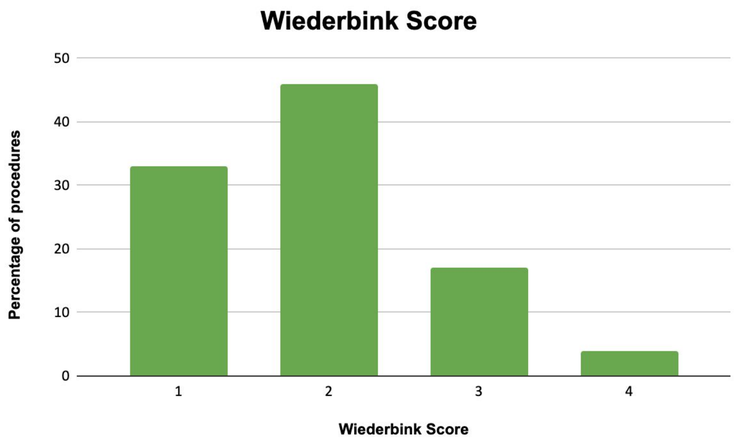
Secondary Findings

Referral Distribution
Patients were referred from 6 of the 20 District Health Boards.

Length of Stay
Median length of stay was 7.5 days. 1 patient exceeded a 10 day admission due to compartment syndrome.

Complications
Of the 24 procedures:
1 Procedure resulted in compartment syndrome requiring fasciotomy.
1 Procedure required readmission due to cellulitis
1 Procedure resulted in a burn requiring debridement.
1 Procedure resulted in a groin haematoma.
Leg swelling was reported in 5 procedures however it was not objectively measured and suspected to be under reported.

Limb Toxicity-
Limb toxicity of Wieberdink grade III or higher was seen in 21% of patients. No toxicity related amputations occurred.



WHO scale for reporting cancer
PD - Progressive Disease: Any Increase in mass >25%

SD - Stable Disease: a reduction of less than 50% or an increase in tumor mass of no more than 25%,

PR - Partial Response: a 50% decrease in total tumor size determined by two observations more than 4 weeks apart without appearance of new lesions or progression of any lesion.

CR - Complete Response:
disappearance of all measurable disease determined by two observations more than 4 weeks apart

Wieberdink scale
Grade I: NO subjective or objective evidence of reaction.

Grade II: Slight erythema and/or edema.

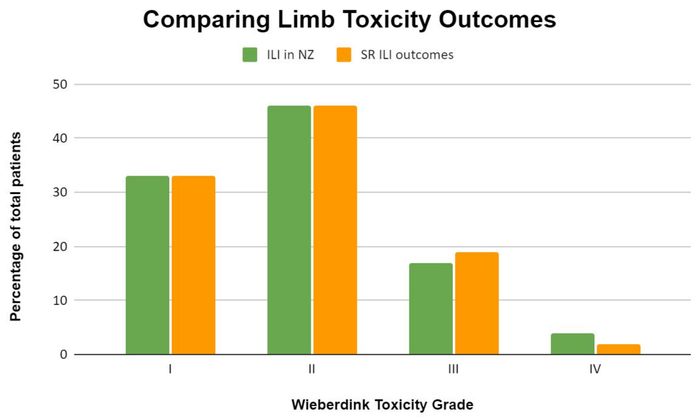
Grade III: Considerable erythema and/or edema with some blistering; slightly disturbed motility permissible.

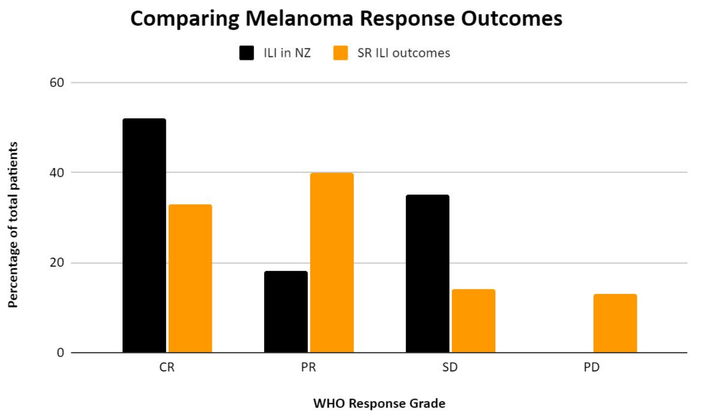
Grade IV: Extensive epidermolysis and/or obvious damage to the deep tissues, causing definite functional disturbances; threatening or manifest compartmental syndromes.

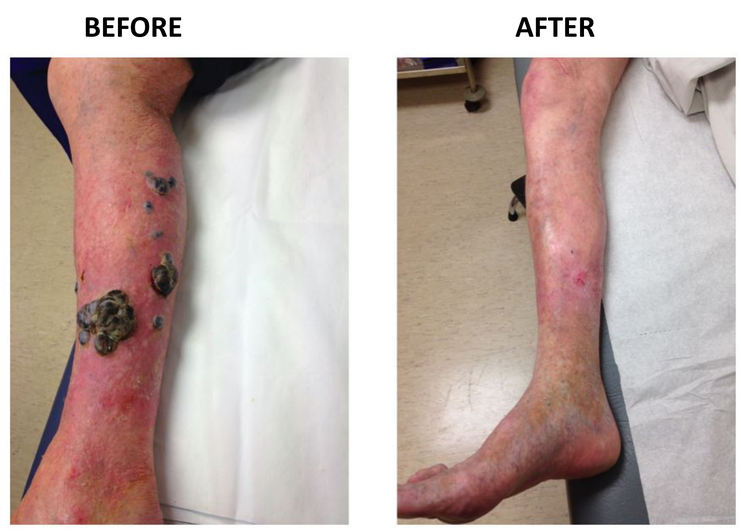
Grade V: Reaction which may necessitate amputation.

CONCLUSION
ILI is infrequently used, but has an important and effective role in the contemporary management of limb salvage in melanoma and SCC in New Zealand.

Comparing with relevant literature
Our results are consistent with the Kroon et al systematic review (5) of seven studies worldwide.







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