

# The One Step Melanoma Surgery (OSMS): A New Chance for More Adequate Surgical Treatment of Melanoma Patients!?

Georgi Tchernev<sup>1,2\*</sup>, Ivanka Temelkova<sup>1,2</sup>

<sup>1</sup>Medical Institute of Ministry of Interior (MVR), Department of Dermatology, Venereology and Dermatologic Surgery, General Skobelev 79, 1606 Sofia, Bulgaria; <sup>2</sup>Onkoderma - Clinic for Dermatology, Venereology and Dermatologic Surgery, General Skobelev 26, 1606 Sofia, Bulgaria

## Abstract

**Citation:** Tchernev G, Temelkova I, Lotti T. The One Step Melanoma Surgery (OSMS): A New Chance for More Adequate Surgical Treatment of Melanoma Patients!?. Open Access Maced J Med Sci. 2019 Feb 15; 7(3):504-506. <https://doi.org/10.3889/oamjms.2019.147>

**Keywords:** One Step Melanoma Surgery (OSMS); Melanoma; ultrasound assessment

**\*Correspondence:** Georgi Tchernev. Medical Institute of Ministry of Interior (MVR), Department of Dermatology, Venereology and Dermatologic surgery, General Skobelev 79, 1606 Sofia; Onkoderma - Clinic for Dermatology, Venereology and Dermatologic Surgery, General Skobelev 26, 1606 Sofia. E-mail: [georgi\\_tchernev@yahoo.de](mailto:georgi_tchernev@yahoo.de)

**Received:** 12-Jan-2018; **Revised:** 06-Feb-2019; **Accepted:** 07-Feb-2019; **Online first:** 13-Feb-2019

**Copyright:** © 2019 Georgi Tchernev, Ivanka Temelkova, Torello Lotti. This is an open-access article distributed under the terms of the Creative Commons Attribution-NonCommercial 4.0 International License (CC BY-NC 4.0)

**Funding:** This research did not receive any financial support

**Competing Interests:** The authors have declared that no competing interests exist

One step melanoma surgery (OSMS) is applicable to all patients with clear clinical and dermatoscopic criteria for thin cutaneous melanomas or melanoma in situ lesions, even without the need for preoperative tumour thickness measurement. Amelanotic melanomas and melanomas with clinical and dermatoscopic features for regression zones could be problematic when applying the OSMS. The methodology could be also applicable to all groups of patients where the tumour thickness could be measured preoperatively/by ultrasound (while in parallel also determining the status of the locoregional lymph nodes). For tumours with a tumour thickness between 2 and 4 mm, but also over 4mm the OSMS seems to be the correct choice.

## Dear Editor,

One-step melanoma surgery undoubtedly turned out to be one of the innovations of our time [1], [2]. It applies to groups of patients where the tumour thickness could be measured preoperatively/by ultrasound (while in parallel also determining the status of the locoregional lymph nodes) but also to patients where the ultrasound assessment is not obligatory [1], [2], [3]. It is believed that the preoperative high-resolution ultrasound even with 15-MHz-20 MHz to a very large extent correctly identifies thin MMs and allows appropriate surgical margins to be selected and eventually to save the need for further re-excision [4], [5]. The frequency of ultrasonography can reach up to 75 MHz, considering

that the main limitations on its usefulness in the diagnosis of tumour thickness may be associated with certain histological characteristics such as the presence of an inflammatory/lymphocytic infiltrate or naevus remainder, which can overestimate the thickness [4], [6].

Furthermore, the possibilities of sonography are limited in terms of differentiating between malignant and benign tumours from a morphological point of view which is a disadvantage especially in the case of-of tumour regression or amelanotic melanoma [7]. The existing standards for the melanoma treatment require the conduct of the so-called excision biopsy followed by a histopathological assessment of the tumour thickness and, depending on it: performing re-excisions with different fields of additional surgical

security, combined or not with the determination of a draining lymph node [8].

The drawbacks of this methodology are many: 1) the different treatment time of the preparations, which, according to the institution, may not coincide with the two-week period for performing a re-excision, for example, 2) the willingness for a second opinion of the patients themselves, which makes the re-excision pointless if the deadlines for the latter are not met. As well as 3) the refusal of re-excision for various other reasons, which can be both objective and subjective.

Because of these facts, the preoperative assessment of tumour thickness creates several unique opportunities to minimise these problems and to optimise the approach to the patients to a maximal extend, namely:

1) For all lesions that are clinically and dermatoscopically indicative of cutaneous melanomas or melanoma in situ, preoperative ultrasound of the primaries should or could be performed. If the primaries have a tumour thickness of less than or up to 1 mm, then a re-excision with a surgical security field of 1cm in all directions should be planned without removing the draining lymph node (Table 1).

**Table 1: One step melanoma surgery (OSMS): Tchernev G et al. recommendations [6]. The crucial step of the procedure remains ultrasound. 20 MHz ultrasound may overestimate tumour thickness due to the lymphocytic peritumoral infiltrate. Therefore, 75 MHz has been suggested to overcome this possible drawback [7].**

Breslow thickness	Recommended surgical margins
Melanoma in situ	1.0 cm (clinical/dermatoscopic evaluation obligate/if possibility for echographical examination -from benefit)
<1 mm	1.0 cm (clinical/dermatoscopic evaluation obligate/if possibility for echographical examination -from benefit)
1.01 - 2.0 mm	1.0 cm (with SLND), (echographical tumour thickness measurement preoperatively recommended)
2 mm- 4 mm	2.0 cm (with SLND) ethnographical tumour thickness measurement preoperatively recommended
> 4 mm	2.0 cm a) no enlarged lymph nodes- 2 cm resection is sufficient, b) in the presence of enlarged lymph nodes- to be removed together with the excision of the primary tumorous tissue!

2) If the primaries has a tumour thickness above 1 mm and less than 2 mm, the surgical security field will be 1 cm and will be combined with the simultaneous removal of the draining lymph node within one surgical session (Table 1) [1].

3) In tumours with a thickness between 2 and 4 mm, echography could be used analogously to those already mentioned in items 1 and 2, with the surgical security field being 2 cm in all directions (Table 1).

4) For tumours with a thickness greater than 4 mm, the single-step melanoma surgery also finds an adequate application (Table 1). If the locoregional lymph nodes are affected, the primaries is removed within one surgical session along with them (and a corresponding field of surgical security). If they are not affected (of clinical and ultrasound point of view), the

determination of a draining lymph node is not recommended (even in tumours over 4 mm) due to the fact that the metastasis is probably already performed: 1) haematogenous, 2) by accessory lymphatic vessels, or 3) for one reason or another, the draining lymph node has not captured the tumor cells.

In all the three options described, the optimization is due to 1) reducing the number of surgical interventions from two to one, 2) the better control of the disease as a whole: the absence of risk of delaying a potential re-excision or patient's failure to attend for the second surgical intervention, and 3) limiting the costs of the subsequent potential second hospitalization [1], [2].

Recently published data are evidencing that the single-step melanoma surgery is also applicable to patients with clear clinical and dermatoscopic criteria for thin cutaneous melanomas, even without the need for preoperative tumour thickness measurement [3], [9], [10], are also of interest. Re-thinking the approach to patients with skin melanomas is yet to come [10].

## References

- Tchernev G, Chernin S, Lozev I, Lotti T, Stavrov K, Temelkova I, Pidakev I. Innovative One Step Melanoma Surgical Approach (OSMS): Not a Myth-It's a Reality! Case Related Analysis of a Patient with a Perfect Clinical Outcome Reported from the Bulgarian Society for Dermatologic Surgery (BULSDS)! Open Access Maced J Med Sci. 2018; 6(4):673-674. <https://doi.org/10.3889/oamjms.2018.194> PMID:29731939 PMCID:PMC5927502
- Chaput L, Laurent E, Pare A, Sallot A, Mourtada Y, Ossant F, Vaillant L, Patat F, Machet L. One-step surgical removal of cutaneous melanoma with surgical margins based on preoperative ultrasound measurement of the thickness of the melanoma. Eur J Dermatol. 2018; 28(2):202-208. PMID:29620001
- Tchernev G, Temelkova I, Stavrov K. One Step Melanoma Surgery (OSMS) Without Using Ultrasonography for Preoperative Tumour Thickness Measurement? - "A Question that Sometimes Drives Me Crazy: Am I or Are the Others Crazy!" Open Access Maced J Med Sci. 2018; 6(6):1085-1090. <https://doi.org/10.3889/oamjms.2018.236> PMID:29983807 PMCID:PMC6026427
- Fernández Canedo I, de Troya Martín M, Fúnez Liébana R, Rivas Ruiz F, Blanco Eguren G, Blázquez Sánchez N. Preoperative 15-MHz ultrasound assessment of tumor thickness in malignant melanoma. Actas Dermosifiliogr. 2013; 104(3):227-31. <https://doi.org/10.1016/j.ad.2012.06.007> PMID:22938997
- Machet L, Belot V, Naouri M, Boka M, Mourtada Y, Giraudeau B, Laure B, Perrinaud A, Machet M, Vaillant L. Preoperative measurement of thickness of cutaneous melanoma using high-resolution 20 MHz ultrasound imaging: A monocenter prospective study and systematic review of the literature. Ultrasound Med Biol. 2009; 35(9):1411-20. <https://doi.org/10.1016/j.ultrasmedbio.2009.03.018> PMID:19616369
- Guitera P, Li LX, Crotty K, Fitzgerald P, Mellenbergh R, Pellacani G, Menzies SW. Melanoma histological Breslow thickness predicted by 75-MHz ultrasonography. Br J Dermatol. 2008; 159(2):364-9. <https://doi.org/10.1111/j.1365-2133.2008.08681.x> PMID:18565186
- Hoffmann K, Happe M, Schüller S, Stücker M, Wiesner M,

Gottlöber P, Schwarz M, Strahler J, Neubauer H, Jung C, Petereit S, Welzel J, Brautzsch N, Bohmeyer J, Wohlrab J, Freitag M, Altmeyer P. [Ranking of 20 MHz sonography of malignant melanoma and pigmented lesions in routine diagnosis]. *Ultraschall Med.* 1999; 20(3):104-9. <https://doi.org/10.1055/s-1999-14245> PMID:10444780

8. Bichakjian K, Halpern C, Johnson M, Foote Hood A, Grichnik J, Swetter M. Guidelines of care for the management of primary cutaneous melanoma. *J Am Acad Dermatol.* 2011; 65(5):1032-47. <https://doi.org/10.1016/j.jaad.2011.04.031> PMID:21868127

9. Tchernev G, Temelkova I. The Novel Surgical Margin for One Step Melanoma Surgery (OSMS) (Without Using Ultrasonography Preoperatively): The End of Conformity! "Vivere militare est!" *Open Access Maced J Med Sci.* 2018; 6(7):1263 -1266.

<https://doi.org/10.3889/oamjms.2018.288> PMID:29983807  
PMCID:PMC6026427

10. Tchernev G, Temelkova I. Comparative Analysis of the "Scholastic" Recommendations of the AJCC From 2011 for the Surgical Treatment of Cutaneous Melanoma with the Newly Suggested Guidelines for OSMS From the Bulgarian Society For Dermatologic Surgery! *Open Access Maced J Med Sci.* 2018; 6(12):2369-2372. <https://doi.org/10.3889/oamjms.2018.511> PMID:30607193 PMCID:PMC6311480