

Prolonged impact of COVID-19 pandemic on delayed melanoma diagnosis: further data based on one-year appraisal from Italy

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To the editor:

The COVID-19 pandemic strongly affected health care organization in Italy, shifting resources from outpatients facilities for inpatient management; as expected, during lockdown, an increase in Breslow thickness and a reduction in new diagnoses of melanoma have been reported in a tertiary referral center in Rome;¹ also, outside Italy, Marson *et al.* reported a 43% decrease in melanoma diagnosis in the COVID period in the United States,² and Lallas *et al.* a 36.4% reduction in melanoma diagnosis in Greece.³ Papers about melanoma diagnosis delay based on a more prolonged period after lockdown are instead just a handful: a reduction in new diagnosis but no increase in Breslow thickness have been reported from March to October 2020 in Veneto

region in northern Italy,⁴ whereas Lo Bello *et al.* compared data between March and December 2019 and March and December 2020 at a Como Hospital reporting an increase in Breslow thickness;⁵ the longest analysed interval was in Chile, describing a 31.2% reduction in the melanoma cases diagnosed per month between April 2020 and March 2021.⁶ We sought to analyse the impact of COVID-19 pandemic at a large referral hospital running four large healthcare districts in the Autonomous Province of Trento, Italy on melanoma diagnosis during a year from COVID-19 pandemic onset in Italy (*i.e.* from March 9 2020 to March 9 2021) with the same period before COVID-19 pandemic (*i.e.* from March 9 2019 to March 9 2020). Total melanoma diagnosis decreased from 401 (1,1 melanoma per day) to 246 (0.7 melanoma per day); no significant difference was found for age and sex. Breslow thickness increased significantly from 0,5±1,4 (mean±SD) to 0,9±2 (P=0,000), as well as the proportion of melanoma with Breslow thickness more than 1 millimeter *i.e.* those in need of sentinel lymph node biopsy, which significantly affects health care costs (Table 1).

After adjusting for confounding factors (age, gender, excision date in relation to COVID-19 pandemic) the period in which the excision was carried was a significant predictor of finding a thicker melanoma (*i.e.* with Breslow>1mm), all other factors being equal (Table 2).

Previous studies have been focused on melanoma diagnosis during the lockdown period. We instead analysed a longer period

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Table 1. Summary data on patients.

	March 2019 - March 2020 (N=402)	March 2020 - March 2021 (N=245)	P
Sex			
Male	212	117	0.2
Female	190	128	
Age (mean±SD)	59.4±17.3	60.8±17.7	0.26
median (range)	61 (95)	64 (97)	
Breslow (mean±SD)	0.5±1.4	0.9±2	0.000
median (range)	0.2 (12)	0.3 (18)	0.004
≤1 mm (%)	363 (90,3)	185 (75,5)	0.000
>1 mm (%)	39 (9,7)	60 (24,5)	
Ulceration			
Ulcerated (%)	39 (9,7)	26 (10,6)	0.67
Not ulcerated (%)	354 (88,1)	209 (85,3)	

SD, standard deviation.

Table 2. Univariate and multivariate analyses (n=645) about Breslow thickness of melanoma.

	Breslow >1 vs. ≤1 mm			Breslow >1 vs. ≤1 mm		
	OR	Unadjusted 95% CI	P	OR	Adjusted 95% CI	P
Gender						
Male	1.7	1.1-2.6	0.02	1.7	1.1-2.6	0.03
Female	-	-		-	-	
Age	1.02	1.0-1.03	0.01	1.01	1.0-1.03	0.04
Excision date						
March 2019 - March 2020	-	-	0.000	-	-	0.000
March 2020 - March 2021	3	1.9-4.6		3	1.93-4.74	

OR, odds ratio; CI, confidence interval; SD, standard deviation.

to fully capture the phenomenon amplitude. Further study is warranted to better define the impact of the pandemic on melanoma care nationally.

References

- Ricci F, Fania L, Paradisi A, et al. Delayed melanoma diagnosis in the COVID-19 era: increased breslow thickness in primary melanomas seen after the COVID-19 lockdown. *J Eur Acad Dermatol Venereol* 2020 Dec;34:e778-e779.
- Marson JW, Maner BS, Harding TP et al. The magnitude of COVID-19's effect on the timely management of melanoma and nonmelanoma skin cancers. *J Am Acad Dermatol* 2021;84:1100-3
- Lallas A, Kyrgidis A, Manoli SM et al. Delayed skin cancer diagnosis in 2020 because of the COVID-19-related restrictions: data from an institutional registry. *J Am Acad Dermatol* 2021;85:721-3.
- Gisondi P, Cazzaniga S, Di Leo S, et al. Impact of the COVID-19 pandemic on melanoma diagnosis. *J Eur Acad Dermatol Venereol* 2021;35:e714-5.
- Lo Bello G, Pini GM, Ferguglia G, et al. Effects of COVID-19 restriction measures and clinical resetting on delayed melanoma diagnosis: a single Institution experience. *Ital J Dermatol Venerol* 2021;156:497-8.
- Koch E, Villanueva F, Marchetti MA et al. Reduction in the number of early melanomas diagnosed during the COVID-19 pandemic: a single-centre cohort study. *J Eur Acad Dermatol Venereol* 2021;35:e735-7.