Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Comment on "Androgenetic alopecia present in the majority of patients hospitalized with COVID-19"

To the Editor: We read with great interest the article in which Wambier et al[1] observed a correlation of androgenetic alopecia (AGA) and COVID-19 severity. However, we found some inaccuracies in the analysis and would like to clear them up.

In their study, Wambier et al[1] examined 122 men admitted to the hospitals in Spain and evaluated their AGA severity using the Hamilton-Norwood scale (HNS). The AGA prevalence of men was 79%, and the average age was 62.5 years. The researchers claim that the prevalence of the age-matched population was estimated to be 31% to 53%.

The source of those estimates was a study by Severi et al[2] in which men aged 40 to 69 years were rated according to 4 AGA types adapted from Hamilton-Norwood scale. The researchers found that the prevalence of vertex-only and full AGA (frontal and vertex AGA) ranges from 31% to 53%.[2] However, an additional 31% to 33% of men had frontal-only AGA (Table I). The article by Wambier et al,[1] however, compared the proportion of hospitalized men evaluated with HNS of greater than 1 to the prevalence of vertex-only and full AGA in the population, excluding frontal-only AGA (HNS of 2, 3, 3a, and 4a).

In their supplemental materials,[3] Wambier et al compared the frequency of HNS greater than 3 in patients with COVID-19 to the prevalence of the full AGA type in the study by Severi et al.[2] The full AGA type includes men with an HNS rating of greater than 3. However, men with an HNS rating of 4a or 5 also fit frontal-only and vertex-only AGA types (Fig 1). There is no information on how many men with HNS ratings of 4 or 5 in Wambier et al's study would contribute to which of the adapted AGA types.

In their article, Wambier et al[1] claim that 70% of the examined men infected with severe acute respiratory syndrome coronavirus 2 in the age group of 65 to 69 years had full AGA. The researchers compared this frequency to the prevalence of 33% in Severi et al's study,[2] showing a significant difference. However, 60% of men were rated either 4 or 5 on the HNS, whereas only 10% had an HNS rating of greater than 5. Hence, the actual prevalence of full AGA of patients with COVID-19 in this age group lies between 10% and 70%.

Table I. Severi et al's results of prevalence of androgenetic alopecia by type and age in 1390 population control individuals[2]

Androgenetic alopecia	Age group, y, n (%)			
	<55	55-59	60-64	64-69
None	104 (38)	106 (34)	78 (20)	62 (15)
Frontal only	85 (31)	102 (33)	132 (33)	128 (32)
Vertex only	32 (12)	42 (13)	82 (20)	82 (20)
Frontal and vertex (full)	52 (19)	61 (20)	109 (27)	133 (33)

We analyzed raw data from Wambier et al's study[1] and age-matched it to results from Severi et al.[2] Because of the limitations of Severi et al's study, we were not able to match men younger than 40 years. Nevertheless, 96% of the men examined were older than that age. For men older than 69 years, we matched AGA prevalence in a population to the one in the oldest age group (HNS of >1, 85%) in Severi et al's study.[4] The frequency of AGA in patients with COVID-19 older than 40 years was 79% (95% confidence interval, 72-87), whereas the expected prevalence in the age-matched population was estimated to be 76%. Results suggest that a higher prevalence of AGA in patients with COVID-19 is most likely the consequence of other factors, causing older men to be more susceptible to infection with severe acute respiratory syndrome coronavirus 2.

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Funding sources: None.

Conflicts of interest: None disclosed.

IRB approval status: Not applicable.

Reprints not available from the authors.

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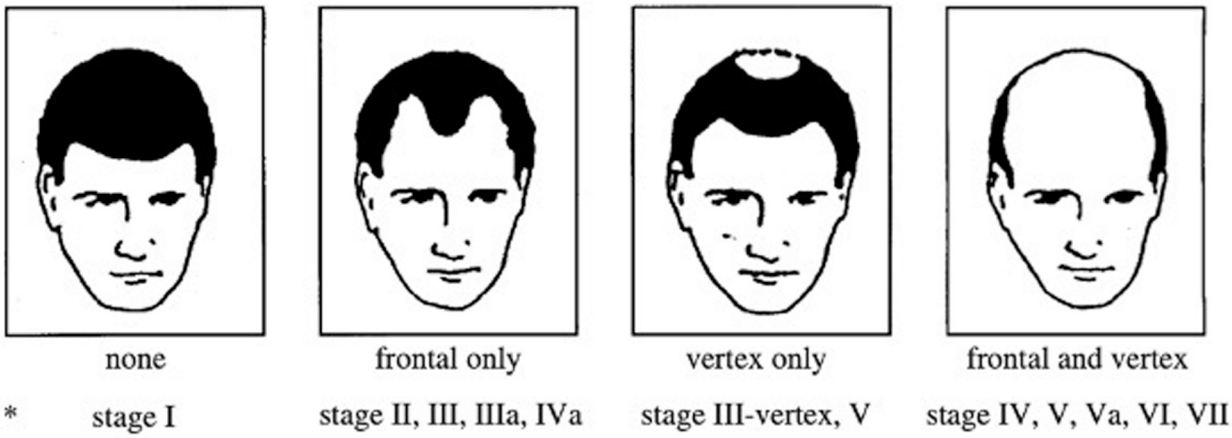

Fig 1. Androgenetic alopecia types adapted with permission from Hamilton-Norwood scale used in Severi et al's article.[2]

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https://doi.org/10.1016/j.jaad.2020.08.087