higher in prolonged DRESS (5 of 7 [71%] vs 2 of 25 [8%]; $P = .002$). Liver enzyme level increase and lymphocyte count were higher at baseline in prolonged DRESS (**Table**). Likewise, mononucleosis-like atypical lymphocytosis was found in 4 cases of prolonged DRESS (57%), compared with 5 cases in "usual" DRESS (20%) ($P = .08$). Strikingly, minocycline as a culprit drug was observed in 3 of 7 cases in prolonged DRESS, whereas it was never involved in the other cases ($P = .007$). There was no evidence of a significant difference between the 2 groups regarding the use of corticosteroids for management of patients with DRESS. Last, no significant difference in viral reactivation frequency was found between the 2 groups.

Discussion | Seven of 32 patients (22%) had prolonged evolution lasting more than 90 days, lasting until day 180 (n = 4) and even up to 1 year (n = 3). Comparative analysis showed a predominance of minocycline use in patients of non-European ethnicity, more frequent pustular eruption, more severe hepatic cytolysis, and higher lymphocyte count at baseline in the prolonged evolution group. Several pharmacogenetic studies have shown an association between HLA types, ethnicity, and severe drug reaction, arguing for ethnicity as an additional key factor in the occurrence of adverse drug reactions. In this respect, in a series of minocycline-induced DRESS,[4] all patients were of non-European ethnic origin with Fitzpatrick skin phototypes V and VI, and minocycline was reported to be detected in the plasma and/or skin of some patients up to 17 months after minocycline withdrawal.[4] Drug accumulation in the skin of predisposed patients could explain prolonged evolution of DRESS and in particular the persistence of cutaneous involvement. In a previous study, we showed that drug use was able to reactivate EBV or HHV-6 in vitro.[1,5] Minocycline, although not tested, might also reactivate herpesviruses or unidentified viruses. In addition, a previous report linked HHV-6 reactivation and severity and duration of symptoms, as well as occurrence of flares.[2] In the present study, no difference was found regarding the role of viral reactivation in the persistence of symptoms. However, more pronounced lymphocytosis, presence of mononucleosis, and more severe hepatic cytolysis suggest a more important viral-dependent reaction in prolonged DRESS.

Florence Tetart, MD
Damien Picard, MD, PhD
Baptiste Janela, PhD
Pascal Joly, MD, PhD
Philippe Musette, MD, PhD

Author Affiliations: Department of Dermatology, Rouen University Hospital, Rouen, France (Tetart, Picard, Joly, Musette); National Institute of Health and Medical Research Unit 905, Institute for Research and Innovation in Biomedicine, Rouen University Hospital, University of Normandy, Rouen, France (Tetart, Picard, Janela, Joly, Musette); Singapore Immunology Network, Agency for Science, Technology and Research, Biopolis, Singapore (Janela).

Corresponding Author: Philippe Musette, MD, PhD, Clinique Dermatologique, Hôpital Charles Nicolle, 1 rue de Germont, 76031 Rouen Cedex, France (philippe.musette@chu-rouen.fr).

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Study concept and design: Tetart, Picard, Janela, Musette.
Acquisition of data: Tetart, Picard, Janela, Joly.
Analysis and interpretation of data: Tetart, Picard, Janela, Musette.
Drafting of the manuscript: Tetart, Picard, Musette.
Critical revision of the manuscript for important intellectual content: Janela, Joly.
Statistical analysis: Tetart, Janela.
Administrative, technical, or material support: Picard.
Study supervision: Picard, Musette.

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Pulmonary Gas Exchange After Foam Sclerotherapy

Foam sclerotherapy (FS) is a safe and effective procedure. Indeed, transient ischemic attacks and pulmonary complications are usually mild, although stroke and pulmonary embolism events have occasionally been reported.[1] It has been speculated that gas microemboli, passing through the heart, may reach the lungs or, through a right-to-left shunt, the cerebral arteries. However, no treatment modification could completely prevent the cephalic dissemination of air bubbles. In an analogy with decompression sickness, a venous gas microembolization should lead to some loss of gas exchange surface, with consequent gas exchange abnormalities and reduction in the transfer factor of the lung for carbon monoxide (TL_{CO}). The aim of this proof-of-concept study was to verify whether TL_{CO} worsens after FS treatment.

Methods | Eleven consecutive voluntary patients, scheduled to undergo FS for varicose veins, were enrolled in the study. The study was approved by the local ethics committee. Written informed consent was obtained from participants. Exclusion cri-

Table. Pulmonary Function Indexes Gas Exchange at Baseline (T0), 20 Minutes (T1) and 1 Week (T2) After Foam Sclerotherapy and Mean (SD) Difference Between T1 – T0 and T2 – T0[a]

	T0	T1	T2	Δ T1 – T0	*P* Value	Δ T2 – T0	*P* Value
TLCO (AV), mL/min/mm Hg	17.95 (4.77)	18.23 (4.59)	17.99 (4.83)	0.27 (0.61)	.17	−0.39 (1.64)	.94
TLCO (AV), %	73.90 (14.69)	75.36 (13.85)	74.45 (16.68)	1.46 (2.58)	.09	−0.55 (6.39)	.78
KCO, measured	4.04 (1.41)	4.01 (1.34)	4.07 (1.76)	0.64 (4.43)	.64	0.00 (8.59)	>.99
KCO, %	70.27 (21.26)	69.64 (19.97)	70.27 (26.14)	0.32 (0.24)	.67	−0.03 (0.49)	.84

Abbreviations: AV, alveolar volume; KCO, TLCO adjusted for alveolar volume; TLCO, factor of the lung for carbon monoxide.

[a] Data are given as means (SDs).

teria were history of thromboembolism, mobility impairment, contraindications to compression, and pulmonary and/or heart disease. Respiratory function tests (RFTs) were performed after an overnight fast and 24 hours of being smoke free using a Baires Computerized System (Biomedin) as described elsewhere.[2] The following parameters were obtained and adjusted for hemoglobin concentration: TLCO, CO diffusion index (through the alveolus-capillary barrier), and KCO (ie, TLCO adjusted for alveolar volume). Foam sclerotherapy was performed mixing polidocanol, 1%, with physiological gas (70% CO_2, 30% O_2) to constitute the final volume of foam to inject. Nine and 2 patients had the great saphenous vein (GSV) and the small saphenous vein (SSV) treated, respectively. Procedures conformed to the European Consensus on Foam Sclerotherapy guidelines. The mean (SD) volume of injected foam was 6.00 (2.82) cm^3 in SSV and 6.25 (1.67) cm^3 in GSV.

The timetable of the study was as follows:

- General clinical assessment
- After 10 minutes, RFT (time 0, T0)
- After 10 minutes, sclerotherapy
- After 20 minutes, RFT (time 1, T1)
- After 7 days, RFT (time 2, T2)

Results from RFT at T0, T1, and T2 were compared using *t* test analyses.

Results | Patients (7 women and 4 men) had a mean (SD) age of 64 (12) years. None of the patients reported adverse events resulting from the FS. No statistically significant difference across study time points was reported for RFTs ($P > .05$ for all comparisons) (**Table**). To limit the risk of having obtained false-negative results, detectable alternative analyses were performed ($\alpha = .05$; $P = .80$).

Our study was powered to detect true differences of 0.57, 2.42, 4.16, 0.22, 1.54, 5.99, 8.05, and 0.46 at the TLCO (T1 – T0), TLCO% (T1 – T0), KCO (alveolar volume [AV]) (T1 – T0), KCO% (T1 – T0), TLCO (T2 – T0), TLCO% (T2 – T0), KCO (AV) (T2 – T0), and KCO% (T2 – T0), respectively. Because these values cannot be considered as clinically relevant, we may assume our results as likely to be truly negative.

Discussion | Lung bubble microembolism seems unlikely to complicate FS, at least if a CO_2/O_2-based mixture, which is less likely to cause an embolism than an air-based one, is used.[3,4] Although the onset of pulmonary embolism following FS is negligible, dry cough and chest tightness are frequently reported. Their pathogenesis might be related to endothelin-1,[5] involved in the mechanism of cough through modulation of the transient receptor potential vanilloid 1 (TRPV1), expressed by airway sensory nerves and involved in the genesis of cough.[6] It is possible that gas exchange modifications may occur in the case of major respiratory alterations. However, the TLCO parameter we adopted is highly sensitive even to clinically silent modifications. Neurological adverse effects of FS have been reported within a few minutes from the foam injection. Therefore, we might have underestimated some pulmonary effect owing to the time needed for the patient to dress and be transferred to the RFT examination. Nevertheless, no sign or symptom was reported by our patients in this timeframe.

Conclusions | Bubble microembolism either is not a typical effect of FS or has only a minimal impact on gas exchanges. Other mechanisms may account for FS-related respiratory adverse effects.

Leo Moro, MD
Isaura Rossi Bartoli, MD
Matteo Cesari, MD
Simone Scarlata, MD
Francesco-Maria Serino, MD
Raffaele Antonelli Incalzi, MD

Author Affiliations: Department of Geriatrics, University Campus Bio-Medico, Rome, Italy (Moro, Rossi Bartoli, Cesari, Scarlata, Antonelli Incalzi); Unit of Food and Nutrition, University Campus Bio-Medico, Rome, Italy (Serino).

Corresponding Author: Francesco-Maria Serino, MD, Laboratorio di Biochimica, Chimica e Nutrizione, Università Campus Biomedico Via Álvaro del Portillo 21, 00128 Rome, Italy (f.serino@unicampus.it).

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Study concept and design: Moro, Scarlata, Serino, Antonelli Incalzi.
Acquisition of data: Moro, Rossi Bartoli, Scarlata.
Analysis and interpretation of data: Moro, Cesari, Antonelli Incalzi.
Drafting of the manuscript: Rossi Bartoli, Cesari, Scarlata, Serino.
Critical revision of the manuscript for important intellectual content: Moro, Cesari, Scarlata, Serino, Antonelli Incalzi.
Statistical analysis: Cesari.
Administrative, technical, or material support: Moro, Rossi Bartoli, Serino, Antonelli Incalzi.
Study supervision: Moro, Cesari, Antonelli Incalzi.

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The Characterization of Indoor Tanning Facilities in Florida

Commercial tanning beds have been available for cosmetic use for many decades, and current estimates suggest that 1 million people use tanning beds daily despite their placement in the highest cancer risk category and use being restricted in many states.[1] Indoor tanning is linked to melanoma and nonmelanoma skin cancer development, especially with use before age 35 years.[2] Interestingly, use by teenage girls is as high as 40%, and overall, 20% of 18- to 29-year-old individuals have indoor tanned in the last year.[3] Because indoor tanning use is associated with increased morbidity and mortality, the availability of devices to certain demographics may have significant public health consequences. Classification of providing facilities may facilitate more directed health or regulatory interventions.

Methods | The requirement for institutional review board approval was waived by the University of Miami Miller School of Medicine. Information regarding registered tanning facilities was obtained from the Florida Department of Health including business name, telephone number, and zip code. Further information on the facility type and the services offered was abstracted from the internet and direct contact with facilities.

The facilities were categorized by the services offered and were assigned to the following groups: tanning only, beauty, hair, nail services, fitness facilities, residential facilities, spa, wellness, massage services, and other. Residential facilities were assessed for whether the tanning services were unlimited and complimentary to residents.

Results | In October 2012, 1261 facilities were licensed indoor tanning facilities by the Florida Department of Health. **Table 1** gives the numbers of indoor tanning facilities by type. There is 1 tanning salon per 15 113 people and 1.16 tanning facilities per every 50 square miles (129.5 km^2). For comparison, numbers of other types of prevalent, frequently visited businesses within the state of Florida were tabulated (**Table 2**).

Discussion | Recently, availability of indoor tanning facilities has drastically increased, and this business has become one of the fastest growing industries.[3] Despite tanning bed exposure being labeled as "carcinogenic to humans," increasing use by adolescents is a concern.[1] The prevalence of indoor tanning likely varies by sex, age demographic, social influences, attitudes, and the proximity of tanning facilities to schools and homes. The prevalence of indoor tanning facilities in Florida compared with commonly frequented businesses in our study has alarming implications.

Table 1. Indoor Tanning Facility by Type

Facility Type	No. (%)
Tanning only	498 (39.5)
Beauty/hair/nail	288 (22.8)
Fitness	274 (21.7)
Residential	94 (7.5)
Spa/wellness/massage	86 (6.8)
Other	21 (1.7)
Total	**1261 (100)**

Table 2. Comparative Numbers of Prevalent Florida Businesses

Business	No.
Indoor tanning facilities	1261
Bank of America branches	624
Bank of America ATMs	1455
McDonald's	868
CVS	693
Publix Supermarket	756

Abbreviation: ATM, automated teller machine.

Florida has the second highest incidence of melanoma in the country and does not restrict tanning device use by age.[4] The link between indoor tanning use and skin cancer development has strengthened. Melanoma is the most lethal skin cancer, and its incidence in young women and girls has recently more than doubled.[5] Our group previously reported geographic clustering of late-stage melanoma cases in Miami Dade County, and whether a causal relationship exists may warrant further evaluation and stringent regulation.[6]

Interestingly, this study uncovered many indoor tanning facilities operating within residential facilities in Florida marketing services to university students, offering use of tanning devices with residence. Of the 94 residential locations providing indoor tanning services in Florida, 88 (94%) provide complimentary tanning with residence, only limiting use to once daily. Because the targeted demographic is at particular risk for subsequent skin cancer development, the implications are substantial. Moreover, many Florida tanning facilities are located at fitness centers and businesses marketing "wellness" services. The association of indoor tanning with these amenities falsely implies that indoor tanning promotes health rather than carcinogenic effects.

Further investigation of the impact of indoor tanning facility type, geographic location, and use on skin cancer incidence may promote regulation of these carcinogenic devices and guide health interventions. Moreover, efforts to restrict false advertising and complimentary indoor tanning may be warranted.

Sonia A. Lamel, MD
Nicholas A. Richmond, BS
Liza R. Braun, BA
Alejandra C. Vivas, MD
Robert S. Kirsner, MD, PhD