

ORIGINAL RESEARCH

# Skin Diseases Affecting High-Level Competition Sailors: Descriptive Study Carried Out During the 2012 AG2R Transatlantic Boat Race

Brice Loddé, MD; Catherine Mahé, MD; Laure Jacolot, MD; Richard Pougnet, MD; David Lucas, MD; Dominique Jegaden, MD; Jean-Dominique Dewitte, MD, PhD; Laurent Misery, MD, PhD; Ray Lucas, MD

*From the Occupational and Environmental Diseases Department, (Drs Loddé, Pougnet, and Dewitte) and the Department of Dermatology and Venereology, Brest University Hospital, Brest, France (Drs Mahé and Misery); the Finistère Sailing Centre, La Forêt-Fouesnant, France (Dr Jacolot); the Department of Occupational Health in Iroise Brest, France (Drs D. Lucas and Jegaden); and the Department of Emergency Medicine, George Washington University, Washington, DC, United States (Dr R. Lucas).*

**Objectives.**—The primary objective of this study was to identify skin disorders encountered in a population of sport sailors. Unlike merchant mariners and fishermen, there is sparse literature on this maritime population. Secondary objectives were to uncover on-board conditions that may contribute to dermatological problems in this population.

**Methods.**—We conducted a prospective study during the 2012 AG2R transatlantic race. Sixteen two-man crews participated in this race, all using the same model of sailboat (Bénéteau Figaro 2). Clinical examinations were conducted, photographs taken, and questionnaires containing 34 questions were handed out before departure and on arrival, 22 to 24 days later.

**Results.**—Twenty-eight of 32 skippers (88%) participated in departure data collection, and 18 (56%) completed data collection on arrival. The average age of sailors was 34 years (SD = 8). Compared with skin diseases documented on departure, there was an increased amount of folliculitis on the buttocks, fungal infections, and hyperkeratosis of the hands on arrival. Furthermore, several new skin problems were found postrace: skin scaling, skin erosions on the buttocks, dyshidrosis, thermal burns, and sunburns. The use of protective gear and sunscreen was common, but on-board hygiene was poor with infrequent bathing and clothing changes.

**Conclusions.**—Skin conditions are nearly universal in this maritime population. Further assessments are needed to know if long-term use of protective gear; improved hygiene; use of barrier creams; and proper on-board care of fungal infections, wounds, and burns could reduce the number and severity of skin problems encountered in sport sailors.

*Key words:* sailor, dermatitis, maritime, sport, boat

## Introduction

Skin disorders have been identified as a significant health issue in the marine environment,<sup>1,2</sup> and in 1 study,<sup>2</sup> skin disorders accounted for up to 10% of all cases requiring treatment by a maritime telemedicine service. Most of the published literature relates to occupational skin disorders in the merchant marine and the fishing industries.<sup>3–5</sup> However, professional yacht skippers who sail for sport may also be at risk for dermatologic

conditions related to the marine environment. This recreational population would not be captured in the required occupational disease reporting mechanisms common in Europe and the United States. The existing literature on illness and injury in the professional recreational skipper is sparse and relies largely on self-reporting, which may underestimate the scope of the problem.<sup>6–9</sup> In 1 study,<sup>7</sup> skin disorders accounted for 20% of all illnesses reported during a single ocean yacht race, suggesting the problem may be significant. There are no published studies solely focused on the incidence and type of skin disorders.

The aim of this study was to systematically identify all skin disorders affecting professional skippers in a single

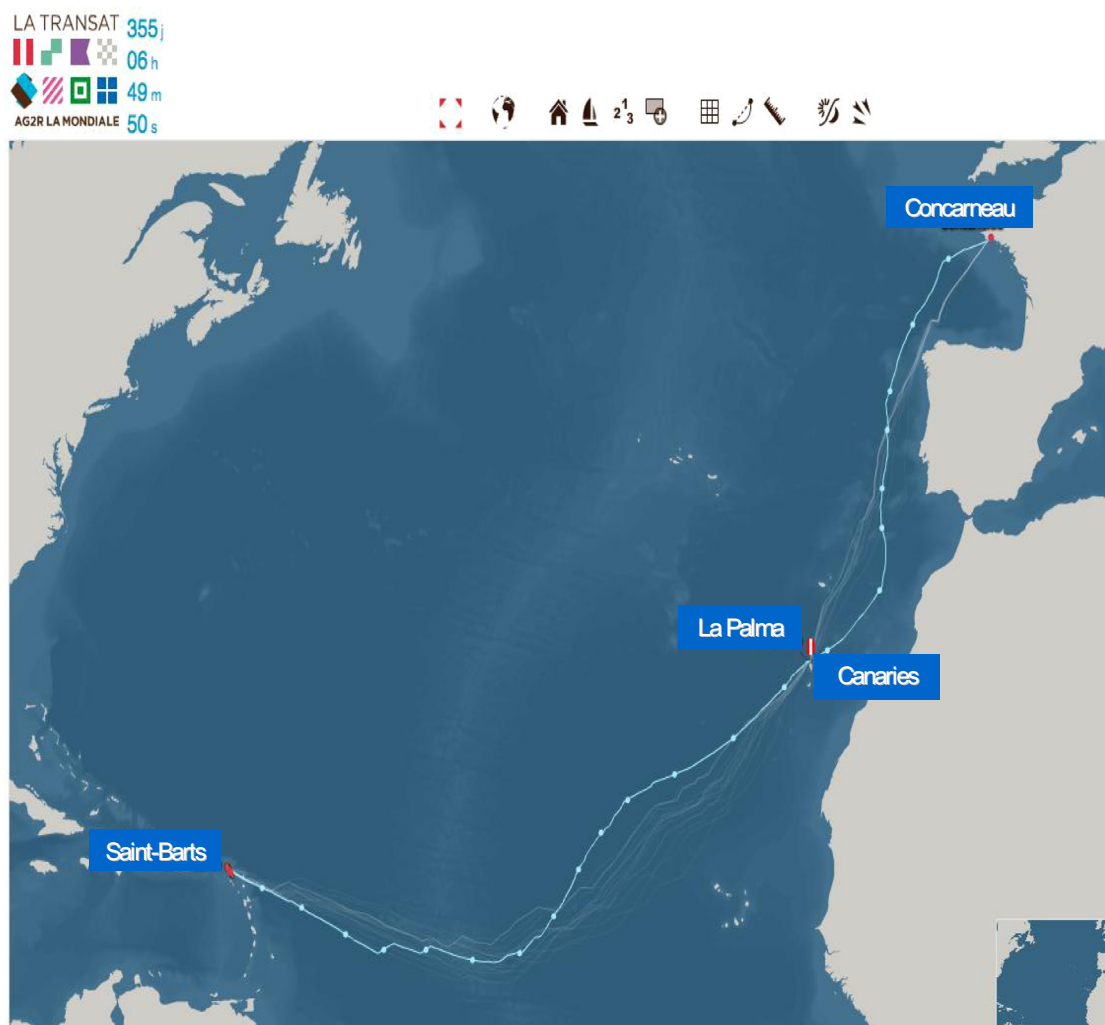
Corresponding author: Brice Loddé, MD, Brest University Hospital, Occupational and Environmental Diseases Department (Service de Santé au Travail et Maladies liées à l'environnement), 2 Avenue Foch, Brest Cedex 29609, France (e-mail: Brice.lodde@chu-brest.fr).

transatlantic yacht race. A secondary aim was to uncover environmental, on-board activity and individual factors that may contribute to the development of dermatologic conditions in this population.

## Methods

This was an observational, descriptive study focusing on skin lesions of skippers taking part in the AG2R transatlantic boat race in 2012.<sup>10</sup> The race covers 3890 nautical miles in open ocean from Concarneau, France to St. Barts, French West Indies (Figure 1). All boats in the race were identical Bénéteau Figaro 2 sailboats (Figures 2 and 3a and b) with a two-man crew.<sup>11</sup> The 11th edition of the race in 2012 had 32 participants, and all were approached for inclusion in the study. Approval by an institutional review board is not required in France for observational studies.

Three data sources were used for the study. First was a review of a general medical examination performed by a physician, which was required before participation in the race. Second was a race participant questionnaire administered before and after the race. The prerace questionnaire contained 30 questions related to general health and condition, prior and existing dermatological problems, and plans for skin care and hygiene on board during the race. The postrace questionnaire was shorter, with 9 questions focused on skin problems encountered during the race, how they were cared for on board, and perceived efficacy of any on-board treatment. Third, photographs were taken of each participant using the same high-definition camera focused on hands, elbows, knees, feet, and buttocks. Other areas were photographed only if there were skin problems or lesions reported in additional areas. Photographs were obtained before and after the race. All photographs



**Figure 1.** Map of race routes of 2012 AG2R transatlantic boat race.

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