Patients with the genetic blistering disease epidermolysis bullosa (EB) frequently suffer from chronic wounds that become colonized by bacteria, such as the opportunistic pathogen Staphylococcus aureus. To determine the S. aureus colonization and transmission rates in EB patients, swabs were collected from the anterior nares, throats and wounds of 52 EB patients. Swabs were also collected from the nares and throats of 13 healthcare workers who occasionally meet the sampled EB patients. All EB patients with chronic wounds and 75 % of the patients without chronic wounds were colonized with S. aureus. In contrast, 39 % of the sampled healthcare workers were colonized with S. aureus. Multiple-locus Variable Number of Tandem Repeats Analysis (MLVA) and spa typing revealed a high degree of genetic diversity of 184 collected S. aureus isolates. Self-transmission of S. aureus in individual EB patients with chronic wounds was shown to occur frequently, whereas transmission of S. aureus between EB patients appeared to be rare. There was no evidence for S. aureus transmission between EB patients and healthcare workers. Instead, the present results show that the S. aureus population structure in the sampled EB patients mirrors the general S. aureus population structure in the Netherlands, and that the colonization of EB patients is not biased towards particular S. aureus lineages.

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