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Editorial

MEDICINA CLINICA





Patera syndrome in African migrants. An emerging clinical entity Síndrome de patera en migrantes africanos. Una entidad clínica emergente



Migration, understood as the prolonged displacement of people from their place of origin to other regions of the country, other countries or continents, is a common phenomenon in human history. A distinction is made between emigration (from the place of origin) and immigration (to the place of destination) when the aim is to settle permanently, while the generic term migration is used when there is no evidence of an intention to stay.

The means of transport used by migrants are diverse (land, sea or air), as are the forms of migration (regular or irregular). The number of migrants arriving in Europe by sea, and in particular in Spain, has increased steadily since the early 1990s, although at different rates.^{1,2} Currently, the total number of African migrants registered up to 15 December 2024 is 60,216, which is an all-time high and represents an increase of 14.5% compared to 2023.³ The majority (95%) arrive by sea, and 75% of them reach the coasts of the Canary Islands, an increase of 18.6% compared to 2023.³

The most common demographic profile of migrants is that of people in their third decade of life. Most are men, although in recent years the number of women and children has increased.⁴ This is related to the main causes of migration: the search for work, better social conditions or flight from conflict situations (war, sexual crimes). On the other hand, the increase in the number of women, mainly from Côte d'Ivoire, has been attributed to conditions of violence, female exploitation and genital mutilation.⁵ Most travel takes place in the summer due to the better weather conditions in the Atlantic and Mediterranean.⁶ However, it has now been observed that there is a shift towards autumn due to warmer temperatures in the area where the Canary Islands are located and probably also to climate change.⁴ There are important differences in the geographical origins of migrants, with migrants from areas further north in Africa (e.g. Algeria, Eritrea, Morocco) being more common in the Iberian Peninsula and other areas of continental Europe,^{7–9} while the majority of those arriving in the Canary Islands are from western sub-Saharan Africa (e.g. Mali, Ivory Coast or Senegal)^{4.} The destination has also changed: for many years, the easternmost islands of the Canary Islands saw the largest number of arrivals, due to their proximity to Morocco and the Sahara, but nowadays they go to El Hierro, the westernmost island, due to their origin in Senegal and the direction of the sea currents.

The crossing is made in small boats, pateras (smaller) or cayucos (larger, with a capacity of up to 70 people), in which conditions are totally inadequate, especially if the journey is long. The factors determining medical problems include lack of food and drinking water, ingestion of seawater, which contributes to the development of hypernatremia and is associated with nausea and/or vomiting, ingestion of contaminated food and/or water, immobilisation due to lack of space and firm restraint (chest and limbs) to prevent falling into the sea, skin contact with body wastes and fuel, which promotes skin and injured soft tissue infections, and low ambient temperature.⁴

Although difficult to quantify precisely due to the conditions of the journey, it is believed that up to one third of migrants may die during the crossing.^{1,2} Fortunately, most irregular migrants who enter by sea do not require health care or have minor health problems that can be resolved on an outpatient basis. However, a small percentage (2–3 %), although numerically significant, meet the criteria for hospital admission.^{2,7} We refer to this situation, migrants travelling by boat and requiring hospital admission, as patera syndrome^{4.} Although there is little published information, it generally includes two types of processes, those acquired during the crossing and those present before departure. The relative proportion between the two and the final diagnosis vary from series to series. Thus, in some cases skin lesions may be more common (e.g. scabies or chickenpox),⁸ in others fever (associated with malaria or tuberculosis⁹ and in other series metabolic disorders and/or skin, soft tissue or osteoarticular involvement.¹

Our group has recently published a large series of patients with patera syndrome, of whom about a third presented with acute patera syndrome (SAP, for its acronym in Spanish), a tenth with skin, soft tissue and musculoskeletal involvement (APTBME) and half with both types of manifestations. Acute patera syndrome was defined by the presence of one or more of the following: dehydration, rhabdomyolysis, hypothermia or shock. The most common of these was dehydration (hypertonic, isotonic or hypotonic in equal proportions). It is worth noting that in the presence of severe hypernatremia, volume resuscitation should be performed carefully to avoid serious complications such as pontine myelinolysis or cerebral oedema.¹⁰ According to the criteria established in the literature, approximately two thirds of the patients had rhabdomyolysis. However, none of them had a McMahon score higher than 6 which implies risk of acute renal failure requiring haemodialysis or mortality.¹¹ One reason for this discrepancy is the baseline elevation of creatine kinase activity in certain groups of black people.¹² Hypothermia and shock are less common forms of SAP.

Skin lesions, particularly erosions, are almost universal in newly arrived migrants. Ulcers and cellulitis are the most common clinical forms of deeper involvement. As expected, due to the conditions of the journey, they are prevalent on the lower limbs, including the buttocks, affecting one limb. However, multiple lesions can be observed in about half of the patients and upper limb involvement in a guarter. The micro-organisms isolated from cultures of such lesions are clearly related to travel conditions. Given that migrants immerse their limbs in water contaminated by fuel, urine and faeces, it is not surprising that, in contrast to other series of skin and soft tissue infections in which gram-positive cocci predominate,¹³ gram-negative bacilli such as Shewanella algae, Morganella morganii, Pseudomonas spp and Vibrio spp are more commonly isolated in these patients.^{4,14,15} Knowledge of the most commonly isolated microorganisms will help to guide empirical treatment. Surgical intervention may be required in up to one fifth of cases, always requiring debridement of the lesions, while plastic or reconstructive surgery may be required in up to one tenth of cases. Amputations, although always avoided where possible, were necessary in some cases, although they were always minor. The experience gained over the years has made it possible to reduce the number of major amputations compared to previous series.¹⁶

As mentioned above, overcrowding during the crossing also facilitates the transmission of skin and respiratory infections. In this context, it should be noted that in the series mentioned, covering the period from 1 January 2020 to 31 August 2022, 20% of the patients had a current SARS-CoV-2 infection, although in all cases they were asymptomatic or had a mild clinical form.⁴ This has been explained by the so-called Äfrican paradoxïnvolving both genetic and epidemiological protective factors (e.g. exposure to other coronaviruses or malaria).¹⁷

In addition to the travel-related medical problems noted above, hospital admission facilitates the detection of other diseases already present in the place of origin. In general, migrants constitute a healthier part of the population and are more able to travel,¹ which is expressed by a lower rate of potentially transmissible infections (e.g. hepatitis B virus, syphilis, HIV) than the average in their country of origin, although higher than in the native population. Logically, the length of the migratory journey and the incubation periods exclude the possibility of potentially dangerous diseases (e.g. haemorrhagic fevers). On the other hand, more detailed clinical evaluation, the use of more comprehensive laboratory and microbiological tests as well as imaging studies allow the detection of other abnormalities. In addition to cosmopolitan disorders (e.g. type 1 diabetes mellitus, rheumatic fever), other common diseases in this group are haemoglobinopathies^{12,18} and some helminth infections.¹⁹ A relatively common finding, which has no clinical implications and resolves spontaneously, is the presence of extrapulmonary air; mainly in the form of spontaneous pneumomediastinum and occasionally associated with subcutaneous emphysema, pneumothorax or pneumoperitoneum.⁴ The Valsalva manoeuvre, caused by vomiting due to ingestion of seawater, is the main production mechanism.²⁰

Regarding the progression of patera syndrome, the average hospital stay is not long (less than 10 days), the need for intensive care is low and the mortality rate is practically zero.^{1,4}

In summary, a better understanding of the potential medical problems in this emerging population will allow earlier care and prevent a greater number of complications, especially in severe forms. It is important to note that both under- and over-diagnosis and under-treatment (e.g. in the presence of hypernatremia, rhabdomyolysis or pneumomediastinum) should be avoided. On the other hand, entry by sea is really a bridge to the rest of Europe, so monitoring of these patients is necessary and may take place in areas far from the point of arrival.

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