Linear IgA bullous dermatosis (LABD) of childhood is a chronic autoimmune blistering disease characterised by linear deposition of IgA at the cutaneous basement membrane zone (BMZ) (1–4). Although LABD is rare, it represents the most common autoimmune blistering disorder of childhood (1–3, 5, 6). The childhood variant of LABD has a mean age of onset between 4 and 5 years (1, 3, 4). The clinical presentation is characterised by a sudden eruption of clear vesicles and blisters on normal or erythematous skin, affecting at first the perineum and perioral area. Typically, new blisters develop during resolving lesions resulting in an annular or “rosette-like” configuration. Mucosal involvement is common and manifests with conjunctivitis, oral and nasal erosions (2, 3, 4, 6). Ocular lesions can be severe leading to symblepharon, trichiasis, shrinkage of fornices and, rarely, corneal opacities (6). The disease has a chronic relapsing course and in the majority of cases resolves before puberty (1, 5). A few neonatal cases of LABD have been described (7–13). Mucosal involvement was predominant in these patients. We present a rare case of LABD in a neonate with severe ocular manifestations.

CASE REPORT

A 3,800 g full-term Italian male was born to a 36-year-old healthy woman after in vitro fertilisation. Pregnancy started with triplets, but miscarriage of 2 foetuses occurred at week 10. Family history was negative for skin diseases. At day 3, several vesicles and tense blisters were noticed in the diaper area, neck and face. Bilateral mucopurulent conjunctivitis developed at the same time. The following day, the newborn presented nasal secretion and oral erosions (2, 3, 4, 6). Ocular lesions can be severe leading to symblepharon, trichiasis, shrinkage of fornices and, rarely, corneal opacities (6). The disease has a chronic relapsing course and in the majority of cases resolves before puberty (1, 5). A few neonatal cases of LABD have been described (7–13). Mucosal involvement was predominant in these patients. We present a rare case of LABD in a neonate with severe ocular manifestations.

Upon admission, a skin biopsy of a vesicular lesion of the trunk was performed for routine histopathological examination, followed by a biopsy from perilesional skin for direct immunofluorescence (DIF). Histopathology showed a subepidermal blister with neutrophils and eosinophils admixed with mononuclear cells. DIF revealed linear IgA deposition along the cutaneous BMZ in the absence of IgG and C3 deposits (Fig. 1E), consistent with a diagnosis of LABD. No circulating anti-BMZ antibodies could be detected at 2 months of age by indirect immunofluorescence on salt-split skin. Immunoblotting assays using normal keratinocyte extracts and medium also proved negative at the same age. Finally, the mother’s serum was negative in both assays.

Respiratory manifestations recovered slowly with aerosol therapy. Indeed, bronchoscopy examination performed 6 weeks post-treatment showed minimal inflammatory changes of the larynx and residual tracheal mucous secretions. The infant was discharged at the age of 2 months with complete resolution of skin and oral lesions, normal weight for age, but persistent right eye involvement and mild wheezing.

At monthly follow-ups, no relapses of skin disease were observed. The patient continued aerosol therapy with gradual respiratory improvement until 8 months of age. Despite treatment with trehalose and antibiotic eye drops for several months, an eye examination under general anaesthesia displayed a right corneal leucoma with deep neoangiosis. To date, at 17 months of age the child is performing occlusion therapy for amblyopia and visual acuity has not been measured due to young age.

DISCUSSION

To date only 7 cases of neonatal LABD have been described in the literature (7–13) (Table S1†). In all patients the disease at first affected the skin, manifests-
ting within day 10. The skin manifestations of neonatal LABD seem to resolve rapidly: in 5 patients, including ours, they subsided within the first month of life (7, 8, 12, 13). In our patient and in the case described by Kishida et al. (7) regression occurred in the absence of a specific systemic therapy. On the other hand, all reported cases, except one, were characterised by the severity of mucosal involvement, which followed the skin eruption and persisted longer. Seven patients, including ours, presented upper airway involvement with respiratory compromise leading to intubation and, in one case, tracheostomy (7–10, 12, 13). Death due to respiratory distress was reported in one patient who was also affected by VATERL syndrome (vertebral, anal, tracheoesophageal, renal and limb defects) and hypoplastic nasal sinuses (13). Four patients presented feeding difficulties and oesophageal involvement requiring gastrostomy in 3 of them (7–10). In addition, the severity and persistence of upper aerodigestive tract manifestations resulted in permanent scarring sequelae in 2 patients (7, 8). In our case, aerodigestive complications were less serious and resolved without scarring. In contrast, eye involvement was remarkably severe, leading to right eye corneal leucoma. Ocular manifestations with subsequent scarring and blindness have been reported in a single patient to date.

Systemic treatment with corticosteroids and/or dapsone was required in all neonatal LABD patients with significant mucosal involvement (Table S1). Treatment-related complications included methemoglobinemia and, likely, pneumonia and sepsis (7, 8, 10, 14). The relatively short disease course, in most cases ranging from a few weeks to approximately one year (Table S1), supports a rapid tapering of systemic therapy needed for aerodigestive manifestations. In our patient, respiratory involvement could be satisfactorily managed with corticosteroid aerosol therapy after short-term intubation. In view of the poor bioavailability of systemic corticosteroids in corneal tissue, ocular lesions were treated with topical corticosteroids.

Almost no data are available on the target antigen in neonatal LABD. Circulating anti-BMZ IgA antibodies could be detected by indirect immunofluorescence in 3 out of 4 cases tested (7–10), and were localized to the epidermal side of salt-split skin in one case (9) and to the dermal side in a second one (7). In addition, immunoblotting studies performed in 2 patients did not allow to identify any target antigen (7, 9). No circulating antibodies could be detected in both our patient and his mother by indirect immunofluorescence and immunoblotting assays. The origin of IgA deposits in the skin in neonatal LABD also remains speculative, as the low levels of IgA detected in newborn cord blood have been reported to be of both foetal and maternal origin (15).

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REFERENCES