The response to treatment is very good and should be considered confirmation of the diagnosis. However, recurrences are frequent (in up to 25% of cases) and may require several courses of antibiotherapy. A poor response or recurrent episodes require ruling out other diseases. There are similarities between PBB, suppurative lung disease and bronchiectasis, which could be conceived of as different stages in a spectrum of airway disease.[1–6]

In conclusion, PBB should be considered in children presenting with chronic wet cough in absence of clinical or radiological signs suggestive of a different diagnosis. However, the clinical criteria must be applied very strictly and accurately, given their nonspecificity, to prevent unnecessary use of antibiotics and the associated emergence of drug resistance (in our clinic, the criteria were only met by 3 patients out of a caseload of 1415 children in the course of 1 year).

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Impact of regional laws on firework accident prevention☆,☆☆

Impacto de la normativa autonómica para la prevencion de accidentes pirotécnicos

To the Editor:

Accidents in the paediatric population are an important issue due to both their high frequency and their potential impact on health, and they are the leading cause of death in children aged more than 1 year.[1,2] Families, schools and the government are essential agents in providing minors with safe environments, promoting the development of skills to manage risks successfully and enacting regulations aimed at preventing accidents in this age group.

Royal Decree 989/2015, of 30 October in Spanish law, which regulates fireworks, ammunition and explosives, establishes 8 types of pyrotechnic products, of which only those in categories F1, F2 and F3 can be used for recreational purposes.[3] Products in category F1 are considered to present very low hazard and may be used by individuals aged 12 years or older, those in category F2 are considered a low hazard and may be used by individuals aged 16 years or older, and those in category F3 are considered a medium hazard and can only be used by adults aged 18 years or older. Regional regulations at the autonomous community level[4] lower the age established at the national level to as young as 8 years for category F1 and 10 years for category F2, although in every case current regulation prohibit the sale and purchase of firecrackers to children aged less than 12 years. For age reductions to be applicable, a written authorization by the parents or legal guardians is required. This authorization does not need to be filed with any governmental agency, but it must be carried by the child at all times.

The aim of the study was to describe the characteristics of firework-related accidents managed in the paediatric emergency department of a tertiary care hospital in an autonomous community with a lower age limit for the use of pyrotechnic products.

Between January 2014 and December 2018, 36 children aged less than 15 years sought care for firework-related injuries, with most cases clustered around the week of local festivities. The mean age of the patients was 8.7 years (standard deviation, 3.66; median, 9 years; range, 1–14 years), and 63.89% were male. Of the total cases, 38.8% occurred in children aged less than 8 years, revealing noncompliance not only with nationwide policy but also regional policy. In most cases (91.6%) the accident took place in the afternoon

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Fig. 1 Types of injuries caused by fireworks.

Fig. 2 Affected area of the body.

or evening in the context of local festivities. The patients did not exactly specify the type of pyrotechnic product that caused the injury, although the hazardous potential of the products was evinced by the injuries managed: eye injuries, burns and blast injuries (Fig. 1). We were unable to determine whether the patients were accompanied by an adult and had the appropriate authorization at the time of the accident.

Second degree burns in the right hand were the most frequent type of injury (66.6%), which indicates that the accident occurred during handling of the product (Fig. 2). There were 3 cases of third-degree burn and 4 severe injuries (11.1%) with loss of tissue, fracture and need of surgery and grafting, in a girl aged 1 year injured during a fireworks show and 3 boys aged 10 years injured during handling of a product. In 19.4% of the patients, the injuries required referral to the regional burn centre.

Pyrotechnics should not be considered toys, but devices that may cause serious injuries and burns. The American Academy of Paediatrics recommend a complete ban on the use of fireworks by children.[5] The European Child Safety Alliance recommends never to let children play with fireworks due to the risk of injury. As is the case of Spain, all member states of the European Union have laws regulating or even banning the sale of fireworks to children and their use by children, which have had a positive impact as evinced by a decrease in the number of related accidents.[6]

In our sample, most children suffered the injury while handling the product, and had a mean age that was lower compared to previously published case series,[7] which suggests a lack of direct supervision and noncompliance with regulations that are already lax. Our findings, based on data from a region where there is a tradition in the use of fireworks, may not be representative of other regions in Spain. Pyrotechnic products must be used responsibly and in adherence with current regulation, so that they can be enjoyed while avoiding accidents.

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Graves disease with negative TSH receptor antibodies: a presentation of 5 cases☆

Enfermedad de Graves con autoanticuerpos contra el receptor de la TSH negativos: a propósito de 5 casos

To the Editor:

Graves disease (GD) is the leading cause of hyperthyroidism in the paediatric population. It is an autoimmune disease characterised by the production of antibodies against the thyroid stimulating hormone receptor (TSHR) and progressive infiltration of the thyroid by T and B lymphocytes.[1]

There are 3 types of antibodies that bind TSHR, or thyroid receptor antibodies (TRAb): thyroid-stimulating antibodies (TSAb); TSH-stimulation blocking antibodies (TBAb) and so-called ''neutral'' TRAb.[1] These antibodies can be detected by immunoassays with a sensitivity of up to 98% in third-generation binding assays,[1,2] or by means of cell-based bioassays, which measure functional activity and may even be more sensitive.[1–3]

The diagnosis of GD is based on the detection of lower-than-normal levels of TSH and presence of TRAb.[4] However, TRAb are not found in some patients that have clinical manifestations, a hormone profile and imaging features highly indicative of GD.[3] Table 1 summarises 5 paediatric cases of this clinical presentation that has yet to be thoroughly investigated and not well understood.

Case 1: pubertal patient with a personal and family history of autoimmune disease presenting with clinical hyperthyroidism with low levels of TSH and levels of free thyroxine (T_4) in the upper limit of normal in successive laboratory tests in the 2 months that followed. The levels of anti-thyroid peroxidase (TPO) antibodies and anti-thyroglobulin (TG) antibodies were high, and the findings of the ultrasound examination were compatible with thyroiditis. The disease is currently controlled with antithyroid drugs.

Case 2: adolescent aged 14 years presenting with manifestations characteristic of hypothyroidism at onset: asthenia, malaise, somnolence, abdominal pain, constipation and decreased appetite. The relevant findings of blood tests were a low level of TSH with an initially normal level of free T_4, with progression within a month to a presentation more characteristic of hyperthyroidism: palpitations, agitation, insomnia, palpebral retraction, goitre and elevation of free T_4.

Case 3: girl aged 10 years with clinical and biochemical features compatible with hyperthyroidism. During the follow-up, the patient exhibited hypothyroidism at low doses of methimazole, leading to discontinuation of treatment after 1.5 years, upon which the patient relapsed and was finally treated with radioiodine. The TRAb detection tests were mildly positive using first-generation assays at 3 years from onset, and later became clearly positive with second-generation binding assays.

Case 4: newborn infant that developed transient neonatal hyperthyroidism with a family history of GD in the mother, who had undergone thyroidectomy for treatment of papillary thyroid cancer. The results of second-generation binding assays for detection of TRAb were negative in both mother and child.

Case 5: patient presenting with early-onset persistent hyperthyroidism with a family history of hyperthyroidism and negative TRAb results. The results of gene testing for TSHR-activating mutations were negative. The patient is scheduled to receive radioiodine for curative treatment.

Although there are few studies in the paediatric population, it appears that patients with hyperthyroidism compatible with GD and undetectable levels of TRAb exhibit thyrotoxicosis with milder clinical manifestations and biochemical abnormalities.[3] In this regard, our findings were consistent with the existing literature: none of the 5 patients had thyroid eye disease or pretibial myxoedema, and the levels of free T_4 at diagnosis were not very high.

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