

Penile and Oral Angioedema Associated with Peanut Ingestion

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Angioedema is characterized by transient, episodic, non-pruritic, nonpitting and well-defined edema that involves the subcutaneous or submucosal tissue, and most commonly develops in the head and neck region. Angioedema is caused by extravasation of plasma into the interstitial space of the affected tissue. We describe a six-year-old boy who developed oral and penile angioedema subsequent to the ingestion of peanuts.

Key words: angioedema ■ penis ■ lips ■ allergy

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CASE REPORT

A six-year-old Chinese boy was noted by his father to have a swollen penis and lips within an hour after ingesting some peanuts. Neither the parents nor the boy had any recollection of prior peanut ingestion. The boy did not recollect touching his penis after eating the peanuts. The swellings were nonpruritic. There was a sense of tightness in the lips. The penile swelling was asymptomatic. There was no associated skin rash, abdominal pain, dysphagia, stridor, dyspnea, dysuria or abnormality in the urinary stream. His past health was unremarkable except for atopic dermatitis and asthma. There was no history of recent viral infection, insect bite or sting, oral or genital trauma, or blood transfusion. He was not on any medication. There was no family history of atopy or angioedema.

Upon examination, the child was not in distress. His pulse was 76/min, blood pressure 90/60 mmHg and respiratory rate 18/min. He had angioedema of the lips and penis (Figure 1). The swelling involved the foreskin and shaft of the penis. There was a faint red blush to the swollen area. The foreskin could be retracted to reveal a normal elliptical urethral meatus. The underlying glans was not swollen. The swollen areas were not tender. He

was uncircumcised, and the genitalia were Tanner stage 1. There was no scrotal or periorbital edema. The rest of the examination was normal. His serum IgE level was 357 KIU/L. Urinalysis was normal. He was treated with hydroxyzine 10 mg orally qid. When he was reassessed 72 hours later, the angioedema of the lips and penis had subsided. The child was advised to avoid the ingestion of any peanut product, to wear a MedicAlert bracelet and to carry an injectable epinephrine administration device at all times.

DISCUSSION

Acquired penile edema is rare in pediatric or adolescent males.¹ Causes of penile edema include insect bites, penile friction, Henoch-Schönlein purpura, and venereal diseases such as gonorrhoea.²⁻⁴ The majority of the cases of penile edema are idiopathic and benign.^{1,5} Van Howe et al. reported three children 12–14 years of age who had idiopathic penile edema.¹ These authors reviewed the literature and identified penile edema in a series of 94 boys due to chigger bites, and otherwise in only five other pediatric or adolescent males.⁶ Of the five reported cases, one resulted from gonococcal urethritis,² one from penile friction,⁴ and the rest were considered idiopathic.⁵ Subsequently, Joseph reported penile edema in three patients with Henoch-Schönlein purpura.³

Angioedema as a cause of penile edema has been reported in adults.⁷⁻⁹ Henson et al. reported penile angioedema in a 74-year-old black man on the sixth day of lisinopril therapy.⁷ The angioedema resolved when the medication was discontinued. Ajith et al. reported penile angioedema in a 46-year-old man induced by contact with EMLAP, which is a cream that contains a eutectic mixture of lidocaine and prilocaine.⁸ Ishii et al. reported a 37-year-old Japanese man with penile edema secondary to hereditary angioedema.⁹

Angioedema is most commonly caused by a type-1, anaphylactic, IgE-mediated or immediate hypersensitivity reaction to a food, drug, insect venom, preservative, latex product or aeroallergen.¹⁰ Angioedema might also develop consequent to a type-2 cytotoxic reaction (transfusion reaction) or to a type-3 antigen-antibody

Figure 1. Angioedema affecting the penis

complex reaction (serum sickness). Vibratory and exercise-induced angioedema result from hypersensitivity to a mechanical or physical factor. Hereditary angioedema is an autosomal dominant disorder associated with the absence or dysfunction of C1 inhibitor.

Although oral angioedema has been reported following peanut ingestion,¹⁰ to our knowledge, penile angioedema has not been reported. Although our patient did not recollect touching his penis after eating the peanuts, it is possible that he did and that the penile edema developed due to direct contact.

Food hypersensitivity resolves in approximately 30–40% of children after 1–2 years of allergen avoidance. Eighty-to-85% of children outgrow their food allergy by 10 years of age. Peanut allergy does not usually resolve; only 5–10% of patients outgrow the problem. Children with peanut allergy are more likely to suffer from other IgE-mediated illnesses such as atopic dermatitis, asthma and allergic rhinitis.

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