ORIGINAL ARTICLE

Traumatic haemorrhagic bullae of the oral mucosa

Angina bullosa haemorrhagica

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Abstract. *A group of fourteen individuals suffering from traumatic haemorrhagic bullae of the oral mucosa, predominantly located in the soft palate area and tongue was reviewed in this retrospective study. Prior subtle mechanical or thermal injury of the affected oral mucosa was confirmed in twelve individuals (86 %). Recurrences occurred in four individuals (28.6 %). Basic laboratory parameters (blood count) were normal in all patients. Despite characteristic history, typical clinical signs and course, traumatic haemorrhagic bullae remain a relatively uncommon, atypical and often misinterpreted acute disease of the oral cavity. The diagnosis could be difficult but the differentiation of this benign local mucosal problem from more serious group of vesicobullous, haemorrhagic and ulcerative diseases of the oral mucosa is mandatory. The necessity of additional diagnostic procedures was also discussed. In mucosal lesions associated with typical clinical course and relevant anamnesis, biopsy should not be required. Haematological tests were recommended in all individuals with recurrence of the disease and/or lack of relevant anamnestic data.*

Key words: *oral mucosa, injury, bulla, haemorrhage, ulceration*

Slezák R. Traumatický hemoragický puchýř ústní sliznice (angina bullosa haemorrhagica). Folia Gastroenterol Hepatol 2005; 3 (4): 122 – 127.

Souhrn. *Retrospektivně byla hodnocena skupina 14 jedinců s traumatickými hemoragickými puchýři ústní sliznice, typicky lokalizovanými v oblasti měkkého patra a jazyka. Mírná předchozí mechanická či termická traumatizace postiženého okrsku ústní sliznice byla anamnesticky prokázána u 12 jedinců (86 %). Recidivy slizničního postižení se objevily u 4 pacientů (28,6 %). Základní laboratorní parametry (krevní obraz) byly u všech sledovaných jedinců v mezích normálních hodnot. I při typických anamnestických údajích, klinických projevech a charakteristickém průběhu zůstává toto postižení relativně neobvyklým, netypickým, často i nesprávně interpetovaným projevem akutního traumatu ústní sliznice. Stanovení diagnózy může být obtížné. Je však zcela nezbytné odlišit toto benigní postižení od skupiny vážnějších slizničních chorob, projevujících se tvorbou puchýřů, vředů a krvácením v dutině ústní. Diskutována byla také potřeba pomocných vyšetření. V případech s obvyklým klinickým průběhem a při současné existenci věrohodných anamnestických údajů není bioptické vyšetření indikováno. Hematologické vyšetření je doporučováno zejména u jedinců s recidivujícím postižením a při absenci relevantních anamnestických údajů.*

Klíčová slova: *ústní sliznice, poranění, puchýř, krvácení, eroze*

At present, traumatic lesions of the oral mucosa occur frequently in clinical practice. Most of them represent acute or chronic injuries of soft tissues arising from incorrect hygienic procedures. Only sometimes do they become artefactual problems, burns, and posttraumatic mucosal lesions. However, their origin, location and clinical signs may considerably differ. They can appear atypically and sometimes may present with bizarre characteristics (12, 13).

The purpose of this article was to report our experience with less common mucosal traumas predominantly affecting the soft palate, usually designated as

angina bullosa haemorrhagica (Badham, 1967) or less often as localized oral purpura, stomatopompholyx haemorrhagica, traumatic or recurrent oral heamophlyctosis (3, 4, 6, 7, 15), in a group of fourteen individuals. This lesion can mimic a bout of various more serious haemorrhagic, vesicobullous, ulcerative and systemic diseases affecting predominantly oral cavity and rarely also pharyngeal and oesophageal mucosa (7, 9, 14, 15).

Materials and methods

A group of fourteen individuals referred to the Division of Oral Medicine at the Department of Dentistry, Teaching Hospital in Hradec Králové, during 7 years (1998 – 2004) was reviewed (Tab. 1). All patients were clinically examined including gathering detailed anamnestic data. Other mucosal diseases were excluded. Basic laboratory examination was performed in all (blood count). Special haematological examination was secondarily used only in patients with recurrence of the disease. Biopsy was not required for the diagnosis.

Results

Our sample consisted of nine women and five men aged from 42 to 75 years (mean age 63 years). The duration of the lesion from its origin to the specialist's visit differed from minutes to fourteen days. The most frequent location of the bullae was the soft palate including the uvula in eleven patients (Figs. 1, 2). Extrapalatal involvement was observed in four

Figure 1 / Obr. 1
Large, freshly burst bulla of the soft palate with inflammatory border and peripheral remnants of the blood coagulum.
Rozsáhlý, čerstvě vyprázdněný puchýř měkkého patra se zánětlivým lemem a zbytky krevního koagula na periferii.

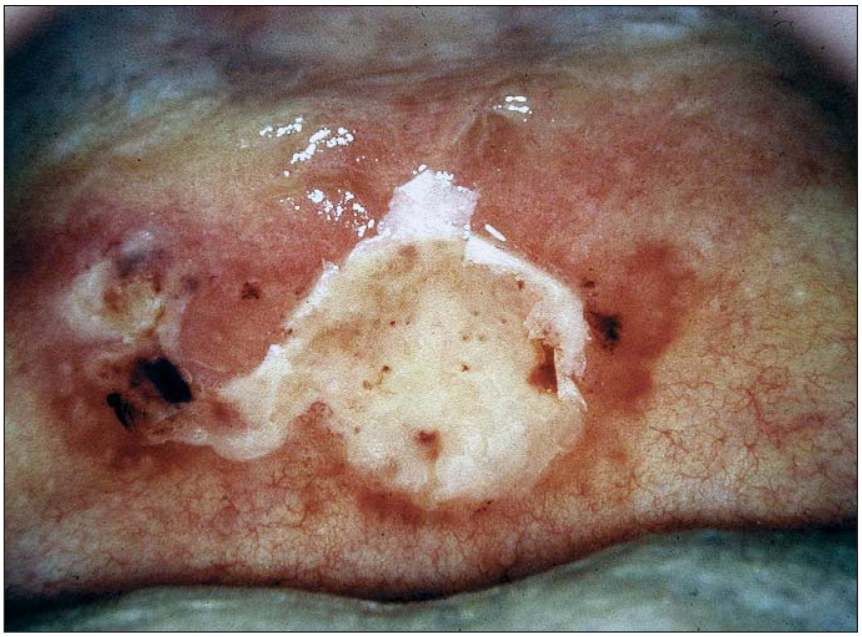
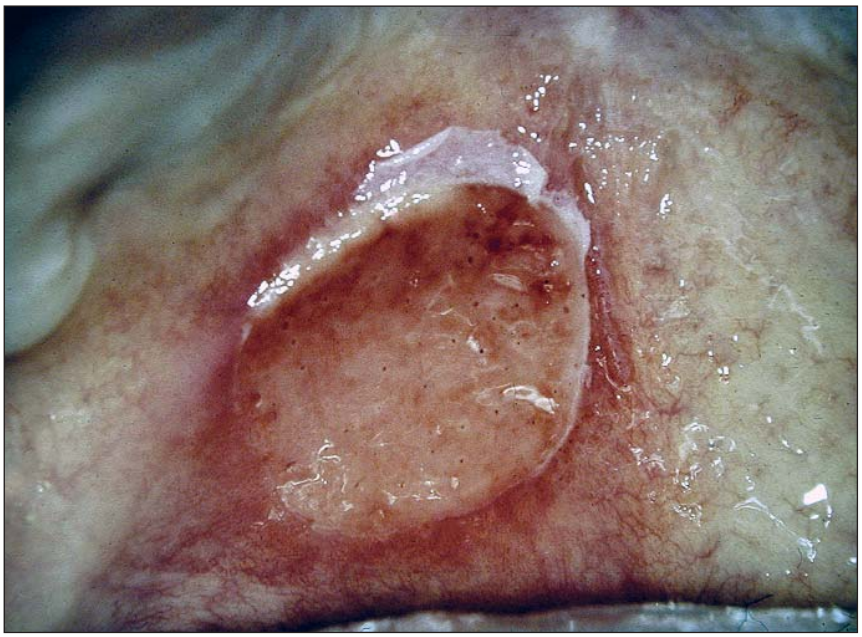


Figure 2 / Obr. 2
Typical secondary ulceration affecting right half of the soft palate.
Typická sekundární ulcerace v oblasti pravé poloviny měkkého patra.



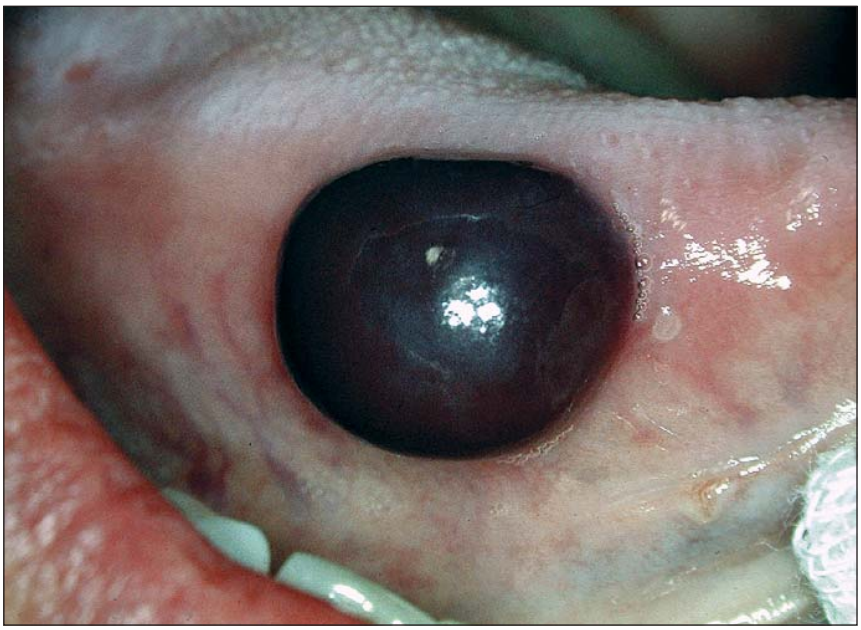


Figure 3 / Obr. 3
Traumatic haemorrhagic bulla of the left side of the tongue.
Traumatický hemoragický puchýř v pravé polovině jazyka.

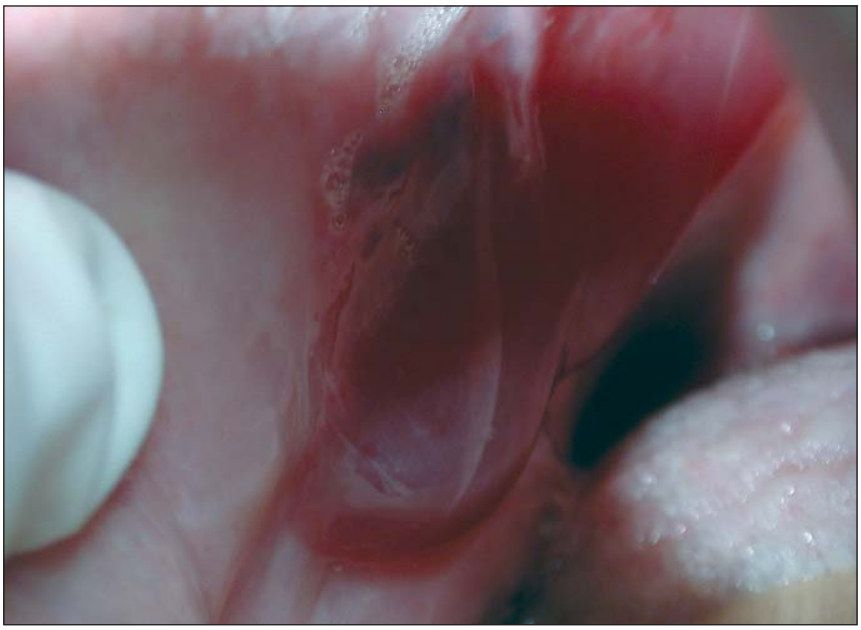


Figure 4 / Obr. 4
Disrupted, only particulary depleted, fresh large haemorrhagic bulla in an atypical location (buccal mucosa).
Prasklý, jen zčásti vyprázdněný, rozsáhlý čerstvý hemoragický puchýř v netypické lokalizaci (tvářová sliznice).

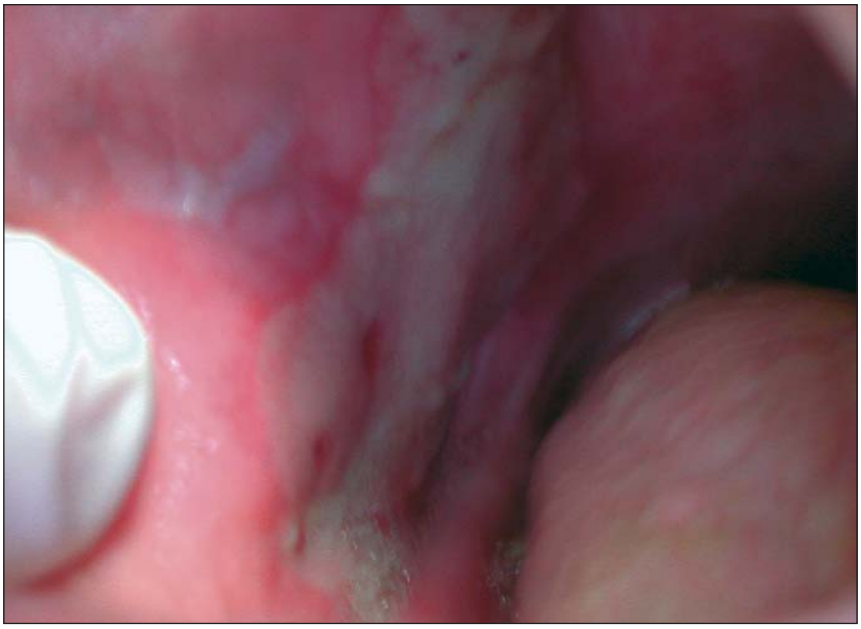


Figure 5 / Obr. 5
Extremely painful, secondary mucosal lesion covered by necrotic epithelium after 4 days of its duration (patient from the Fig. 4).
Silně bolestivý sekundární slizniční defekt krytý nekrotickým epitelem po 4 dnech trvání (pacientka z obr. 4).

Table 1
Summary of clinical data

Case No.	Sex	Age	Location	Injury	Duration	Other diseases
1	F	71	Soft palate	Thermal	3 days	None
2	F	69	Soft palate	Mechanical	1 day	Ischaemic heart disease, arterial hypertension
3	M	69	Soft palate	Mechanical	3 days	Arterial hypertension, uratic arthritis
4	M	42	Soft palate	Mechanical	1 hour	None
5	M	66	Soft palate	Thermal	7 days	None
6	M	68	Soft palate	Mechanical	14 days	Arterial hypertension
7	[1]F	61	Tongue/uvula	None	2 days/10 minutes	None
8	F	52	Tongue	Mechanical	30 minutes	None
9	[1]F	50	Soft palate	Mechanical	2 days/unknown	None
10	M	73	Soft palate	Mechanical	2 hours	Ischaemic heart disease
11	F	71	Soft palate	Thermal	1 day	[3]Chronic bronchitis
12	[1]F	75	Tongue/floor	None	3 days/unknown	Arterial hypertension, [3]asthma bronchiale
13	F	62	[2]Soft and hard palate	Mechanical	5 days	None
14	[1]F	51	Tongue/cheek	Thermal	6 days/2 days	Breast carcinoma, thyroidal hypofunction

[1] Recurrence of bullae
[2] Solitary large bulla
[3] Treated by inhaled corticosteroids

patients and included *facies inferior linguae*, cheek and floor of the mouth (Figs. 3, 4). Nearly all patients confirmed slight mechanical or thermal injury during eating or drinking as a cause of the disorder. The most common causes were hard and/or dry corn meals in eight people, warm soup or coffee in four patients, mostly using upper denture covering whole hard palate. An exception was patient No. 4 who had drunk a cold lemon drink with a small sharp piece of the glass from the bottle. Recurrences were found or referred by the patient in four cases after the time period ranged from two weeks to several moths. Healing of secondary ulcerations lasted from ten days to one month. Altogether eight individuals were using various drugs for chronic systemic diseases. Four of them were treated with antihypertensive agents (28.5 %), two patients used inhaled corticosteroids (14 %). Blood count and related laboratory parameters were normal in all patients. Haematological tests supplemented in individuals with recurrences of the disease did not show bleeding tendencies or microvascular disturbances.

Discussion

All described oral mucosal lesions shared relatively typical clinical signs: (i) sudden origin of the disorder during eating and/or drinking; (ii) involvement of typical areas of the oral mucosa covered by non-keratinized epithelium (soft palate, lateral border of the tongue and floor of the mouth); (iii) temporary presence (minutes) of the asymptomatic haemorrhagic bulla in the oral cavity; (iv) short profuse bleeding from the burst bulla into the oral cavity and/or oropharynx; (v) a resulting shallow but very painful ulceration of the oral mucosa; (vi) protracted healing without scarring over 2 – 4 weeks; (vii) negative clinical findings in other oral mucosal compartments and skin; (viii) negative anamnestic data related to possible haemorrhagic disorders; (ix) negative laboratory findings, (x) absence of recurrence in most patients, (xi) typical age distribution mostly in the sixth and seventh decades with (xii) slight predominance of females.

It may be assumed that mechanical and/or thermal injury of the areas covered by the non-keratinized oral epithelium can lead to the rupture of a small mucosal blood vessel associated with the bleeding into the mucosa with the formation of a subepithelial haemorrhagic bulla, but some authors believe that the cause remains uncertain in most patients (3, 4, 5, 6). The duration of this primary lesion is short; it usually bursts within several minutes. A superficial painful mucosal ulceration develops secondarily, sometimes with subtle signs of the previous haemorrhage in its vicinity.

The most frequent location of traumatic haemorrhagic bullae is the soft palate, leading to specific subjective complaints associated with its functional movements during swallowing and speech, which becomes very painful. It is presumed that the movement of the soft palate is also the cause of the protracted healing. Only exceptionally bullae occur in keratinized areas of the oral mucosa affecting the gingivae and hard palate (1, 2).

Therapeutic possibilities are restricted (4, 6, 7, 14, 15). The use of topically applied anaesthetics prior to eating may be useful. Antiseptics (e. g. chlorhexidine) could be used to eliminate secondary microbial infection, similar to the use of antiseptics in the treatment of the recurrent aphthous ulcers. Benzydamine application due to its anaesthetic and analgesic properties should be recommended. The reassurance of the patient about the benign nature of the lesion is necessary.

Presence of intraoral haemorrhagic blisters or bullae is not common (10). They predominantly develop on the buccal mucosa and in the vicinity of the lateral margins of the tongue as small haematomas, usually caused by injuries associated with chewing. Other confirmed causes of the haemorrhagic bullae in the oral cavity are cicatricial pemphigoid, herpes zoster, epidermolysis bullosa acquisita, and amyloidosis but it could not be desirable to differentiate between traumatic haemorrhagic bullae and other vesicobullous, haemorrhagic and ulcerative diseases involving the oral mucosa.

Bullous autoimmune dermatoses such as pemphigoid group or pemphigus vulgaris often originate in the oral cavity at various sites including the soft palate. Persistence or recurrences after their spontaneous healing are usually over several weeks or months. All these suspected lesions do require biopsy including immunofluorescent microscopy to verify the clinical diagnosis of the autoimmune disease (8, 10, 11). Epidermolysis bullosa acquisita with autoantibodies to type IV collagen is a rare autoimmune disease of adult individuals associated in one half of cases with recurrent multiple vesicles or bullae in the oral cavity, sometimes with blood admixture. Oral mucosal lesions never occur in a solitary manner and without skin involvement (2, 10). Multiple recurrent small haemorrhagic vesicles in cases of amyloidosis with oral manifestation are not typical oral signs of the disease. They only seldom accompany macroglossia and skin haemorrhagic lesions. Biopsy of the clinically healthy oral mucosa is recommended for the diagnosis in uncertain cases of oral amyloidosis (2, 5, 16).

Involvement of the soft palate during the reactivation of the persistent *varicella-zoster virus* infection only occurs when the sensitive portion of the facial nerve *(nervus intermedius)* or second branch of the trigeminal nerve are affected. Bullae can be haemorrhagic but usually smaller and multiple, particularly confluent, simultaneously developing in ipsilateral half of the oral cavity and relevant cutaneous area (dermatome). Other cranial or sensitive cervical nerves may be concurrently involved. Strong headache before and during the eruption of multiple and confluent bullae, erythema and oedema is a typical concomitant symptom of the disease (10).

Major aphthous ulcers of the soft palate or the tongue are similar to ruptured or particularly healed traumatic haemorrhagic bullae. They are caused by epithelial necrosis without both the formation of the bullae and the bleeding. The cause of the demarcated epithelial necrosis remains unknown. The healing process is much more difficult and protracted, sometimes with mucosal scarring. Recurrences are typical and regular. Multiple major and/or minor recurrent aphthous ulcers with predominance for the soft palate occur as a typical clinical sign of the Behçet's disease, mostly in association with ocular, genital, skin and neurological aspects of the disease (10, 12, 13).

Conclusions

Intraoral traumatic haemorrhagic bulla does not seem to be a rare disease. Regardless of its typical clinical signs and course it probably often remains undiagnosed. In the second stage they may be misinterpreted as a primary ulcerative disease of the oral mucosa. All mucosal bullae and ulcers located in the soft palate area require exact clinical examination of the patient to establish a univocal diagnosis. Detailed anamnestic data gathering represents an inseparable part of the examination. It helps to avoid abundant diagnostic and therapeutic procedures, which may unnecessarily strain the patients.

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