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Purpura Localized on the Chin: A New Entity Other Than Factitial Causes?

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Abstract

Purpura is a dermatological finding with many underlying causes including hematological, traumatic, infectious, psychogenic, vascular, and drug-related causes. Although the localization of the lesions varies depending of the underlying cause, they can rarely present in atypical localizations. Lesions localized on the chin are generally attributed to infectious and factitious (mechanical) causes. This paper will present two cases with acute, short-lasting, itchy purpuric skin rashes on the chin and lower lip mucosa and revealing no etiologies. Despite every effort, the underlying causes of the disease could not be identified in our cases. Therefore, we consider that this could be a different disease.

Key Words: Chin, factitial, purpura.

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Conflict of interest**:** None to declare

Introduction

Purpura is a common and non-specific skin finding. It is typically caused due to hematological (thrombocytopenia, coagulation defects), vascular (vasculitis, pigmented purpuric dermatoses, senile purpura), infectious (meningococcus, typhus, parvovirus B19), mechanical (physical trauma, negative pressure), drugs, psychogenic (Gardner Diamond syndrome) factors.

Case 1

A thirteen-year-old female patient first admitted 2 years ago with complaints of itchy lesions on the chin. She described burning before the appearance of lesions. The patient expressed that the lesions occurred spontaneously at times and due to stress at other times. So far, many lesions recurred at the same location. She was sometime having similar lesions on the lip mucosa. The patient and her parents told that they were sure that she had no traumas on the chin. The lesions improved within several days without treatment every time the lesions come back. Dermatological examination revealed erythema and purpuric macules on the chin and necrotic crusts on the lower lip (Figure 1). Hemorrhagic lesions existed on the buccal mucosa. Laboratory

tests found the full blood, biochemistry, sero-reactive protein, erythrocyte sedimentation rate, PTZ-INR, and aPTT to be within normal limits. Anti-nuclear antibody, anti-dsDNA, cryoglobulin, and cryofibrinogen were negative. No pathologies were found in hormonal parameters. Tests showed negative parvovirus antibodies. No pathologies were seen in the intracutaneous autoerythrocyte test (1 ml 80% washed erythrocyte).

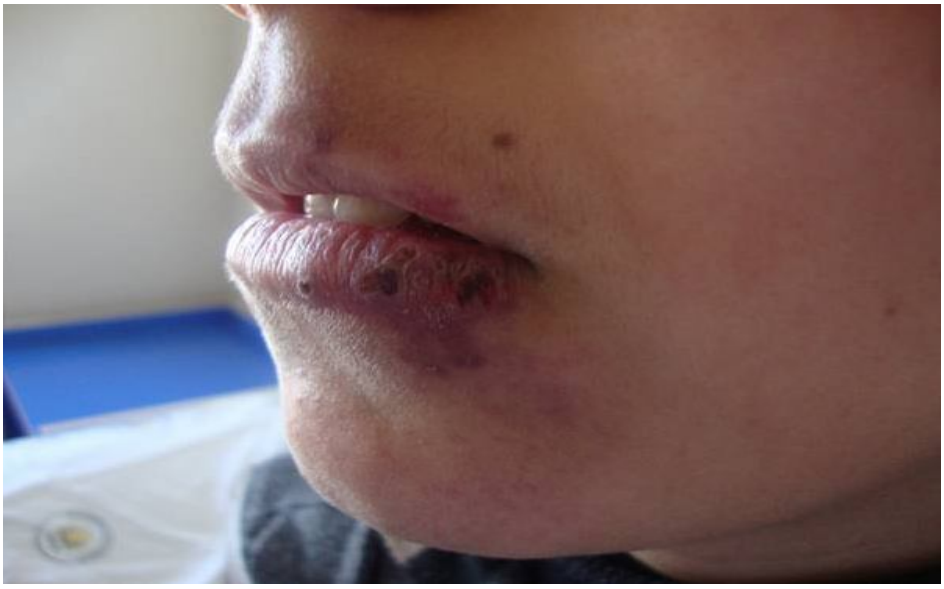

Figure 1: Purpuric macules on the chin and necrotic crusts on the lower lip.

Case 2

A twelve-year-old male patient admitted with complaints of lesions severely itchy, inflamed lesions formed for the first time on the chin. The patient described no previous infections, traumas, and drug use. Dermatological examination revealed erythema and purpuric macules on the chin and linear excoriation on an area (Figure 2). Small hemorrhagic lesions and aphthous ulcers that were the size of a pinhead were observed in several areas on the lower lip mucosa (Figure 3). Laboratory tests found the full blood, biochemistry, sero-reactive protein, erythrocyte sedimentation rate, PTZ-INR, aPTT, and total IgE to be within normal limits. The throat swab culture was negative. Anti-nuclear antibody, anti-dsDNA, cryoglobulin, and cryofibrinogen were negative. No pathologies were found in hormonal parameters. Tests showed negative parvovirus antibodies. The lesion spontaneously resolved within three days.

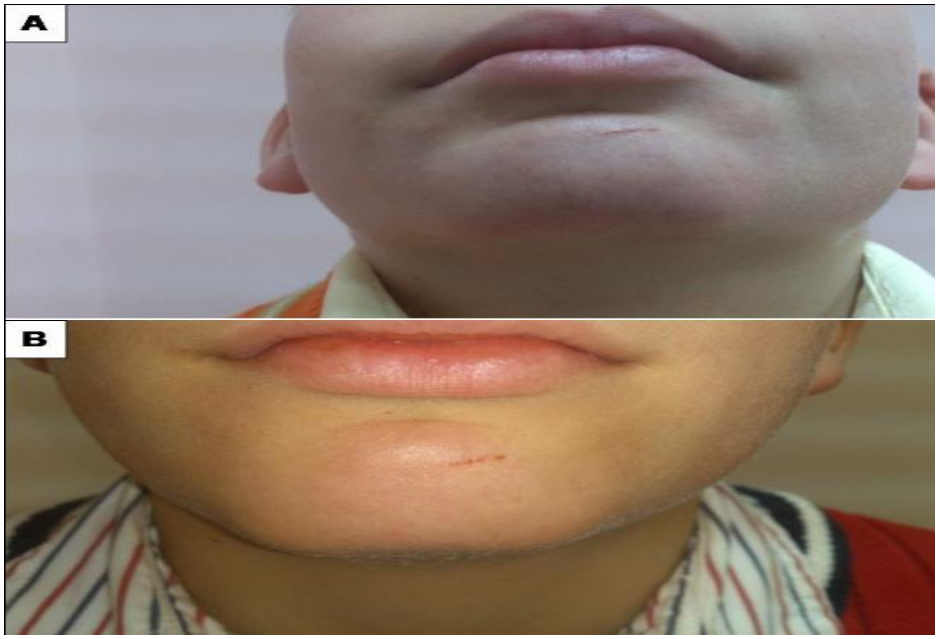

Figure 2: A-Erythema and purpuric macules on the chin and linear excoriation on an area B-Slightly erythema and excoriation three days later.

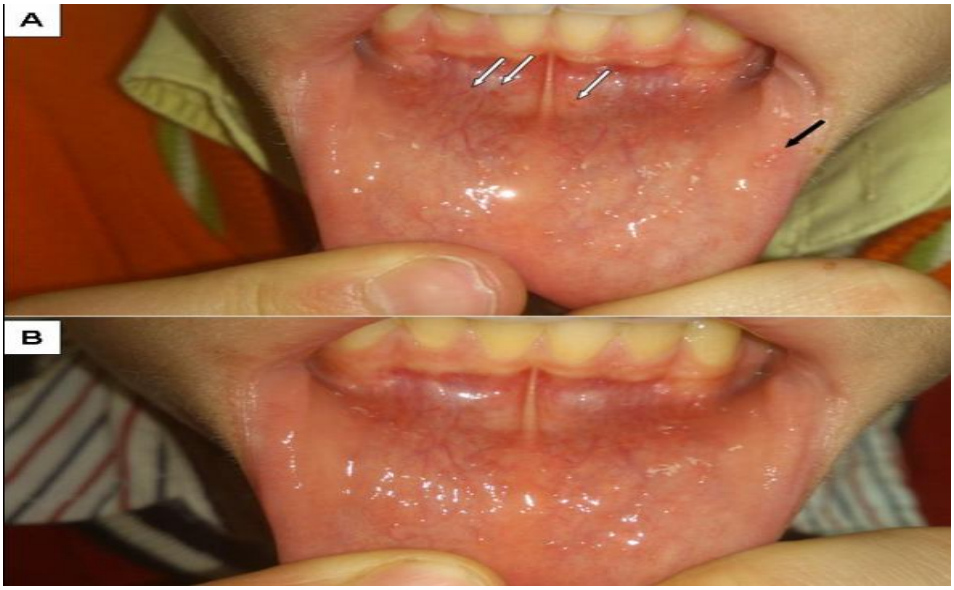

Figure 3: A-Pinhead-sized purpuric lesions and aphthous ulcers on lower lip mucosa B-The normal appeared mucosa three days later.

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Discussion

Purpura is typically sporadic and seen in the entire body. The purpura seen in localized areas is typically associated with mechanical factors (1,2,3) and parvovirus B19 (4) infections, with the laboratory values including platelet count and coagulation tests being within normal limits.

Additionally, although purpura is common in the Gardner Diamond syndrome, laboratory values are within normal limits. Hematological values including hemoglobin, hematocrit, platelet counts, peripheral smear, erythrocyte sedimentation rate, electrolytes, bleeding time, prothrombin, thrombin, partial thromboplastin time, factors of coagulation, are usually within normal limits. Laboratory signs of systemic disorders are absent (5).

Literature scans show that the purpura localized on the chin is associated with mechanical traumas linked with negative pressure such as cupping and parvovirus B19 infections. Mechanical injury certainly can occur inadvertently or purposefully in cases of factitious injury (6). Suction purpura, a subgroup of mechanical purpura, is a common presentation of purpura in children. Most common is purpura of the chin induced by a drinking glass. The first report of drinking glass purpura was of two children in 1971 (2). However, there are many cases developing purpura on the chin associated with cupping (1,2,3). Although no psychiatric problems suggesting mechanical factors were found in our cases, no conditions were found to obtain secondary gain. Hemorrhagic areas were found in both patients on the lower lip mucosa as well as purpura localized on the chin.

Human parvovirus B19 infection is a recognized cause of several clinical syndromes, such as aplastic crisis in chronic hemolytic anemia, hydrops fetalis, and arthropathy. It also has been associated with dermatologic manifestations, namely, the classic rash of erythema infectiosum, vesiculopustular rash, purpura in the absence of thrombocytopenia, Schonlein-Henoch purpura, and "gloves-and-socks syndrome" (PPGSS) (7). The clinical manifestations of PPGSS include exanthem, mucosal lesions, lymphadenopathy, and systemic symptoms, such as low-grade fever, anorexia, and arthralgias. The rash is characterized by a painful and pruritic symmetric erythema and edema with papular-purpuric lesions of the hands and feet, with sharp demarcation at the wrists and ankles[8] The syndrome is self-limited and resolves within 7-14 days, accompanied by desquamation. This syndrome can also present with purpuric lesions on the chin (4). No pathologies were observed that would indicate parvovirus B19 or other infections in our cases.

The Gardner-Diamond syndrome is an autoimmune vasculopathy that develops following phosphatidylserine sensitization, a component of erythrocyte stroma secondary to psychological and/or physical trauma. Developing also

spontaneously, a painful edematous plaque develops on the skin at the beginning and develops into ecchymosis (blue, green and yellow) in 24 hours, totally disappearing in 7-10 days (5). It is typically seen in women aged between 19-72, particularly on the lower extremities and on the body, but it can also be seen on any localization including the face (9). Prodromal symptoms including malaise and lack of appetite, burning, feeling of stinging and sometimes itching can be seen before the lesion becomes visible (5).

The development of skin changes can be accompanied by several systemic disorders. Sometimes, the appearance of new skin lesions is associated with fever, arthralgias, myalgias, headaches and dizziness. More than half of patients with GDS report about different gastrointestinal symptoms (epigastric pain, gastrointestinal hemorrhages, nausea, vomiting, diarrhea), which develop simultaneously with skin lesions (10). It has no specific laboratory parameters. However, gradual development of ecchymosis following intradermal injection of the 1 ml 80% washed erythrocyte suspension derived from the patient's skin is diagnostic for the Gardner-Diamond syndrome (5). Negative intracutaneous erythrocyte tests in our cases, the age group consisting of child patients, non-association of systemic symptoms, and localization of the lesions only on the chin excluded this symptom.

Internet searches using terms such as 'chin purpura' or 'chin bruise' yield many patients with complaints of purpura on the chin in some forums and doctor referral sites. While some patients complain of similar lesions in the mouth, some others complain of recurrence of such lesions. Other than purpura with identifiable causes associated with cupping, no diseases exist both in scientific literature and in such web sites that are chin-localized, acute, resolve quickly, and can cause purpuric rashes.

In conclusion, we consider that purpura localized on the chin is more common than anticipated, with rare referrals to clinics. We guess that some unknown factors, other than traumas, might be causing some of the cases. We believe that it is wrong to think that all cases are associated with suction. Despite every effort, the underlying causes of the disease could not be identified in our cases. Therefore, we consider that this could be a different disease.

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