CASE REPORT

Aerosol Corticosteroid Induced Purpura

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INTRODUCTION

Aerosol corticosteroids are increasingly being advocated for management of responsive cases of obstructive pulmonary disease. With trends in both increased utilization and increased dose of aerosol corticosteroids there are increasing reports of toxicity, including purpura.1-5 Purpura is a manifestation of several diseases including systemic vasculitis, infections such as meningococcemia and measles, drug use, and senility. Inflammation of purpuric lesions does not occur in senile purpura, nor in corticosteroid-induced purpura. The existence of purpura suggests weakening of skin tissue secondary to the breakdown of collagen.6

We report a case of aerosol corticosteroid-induced purpura and review the literature on this recently recognized complication of aerosol corticosteroids.

CASE

A 74 year-old male was admitted to hospital with a chief complaint of shortness of breath, accompanied by fever, chills, rigors, sweats and pleuritic right-sided chest pain. The history of his present illness included longstanding bronchitis/emphysema, for which he had received home oxygen since 1986. He was a greater than 100 pack-year smoker but “quit” in 1987, and now smokes only occasionally. He also had a history of alcohol abuse. His past medical history was extensive and included kyphosis, Duke’s C carcinoma with surgical resection, cataracts and peptic ulcer disease. Review of systems was remarkable only for his dyspnea. On examination, the patient was thin and was dyspneic at rest. His blood pressure was 130/80 mmHg, temperature 38.3°C, heart rate 130 beats per minute, and respiratory rate 30/minute. Chest examination revealed crackles over the right lower lobe, and he had modest pedal edema. Non palpable purpuric lesions were evident on forearms. The remainder of the physical exam was unremarkable. Non palpable purpuric lesions were evident on forearms. He indicated that the higher dose made him “feel better” than the lower dose. The possibility of corticosteroid-induced purpura was suspected, and the patient was strongly encouraged to comply with the prescribed regimen. Aside from some minor psychic changes, the patient encountered no difficulties with the lower dose. Follow up one month after discharge revealed that the purpuric rash was still present, although it had faded somewhat.

DISCUSSION

Aerosol corticosteroid induced purpura is infrequently cited as a complication of aerosol corticosteroid...
The occurrence of oral and topical corticosteroid induced purpura is a comparatively well known phenomenon, believed to be caused by the atrophy of collagen leading to rupture of capillaries in the skin. Though these lesions resemble senile purpura, corticosteroid induced purpura occurs usually only on the legs below the knees and the fronts of the forearms.

A single case report of purpura associated with aerosolized corticosteroids has been reported to date. This involved a 54 year-old female asthmatic who, after 18 months on high dose inhaled beclomethasone (750 mcg twice daily), developed persistent and extensive bruising on her arms and legs. She received severe full thickness lacerations to the purpuric and atrophic areas of skin which subsequently required grafting. She underwent adrenal function tests and was found to have borderline adrenal impairment. The reporting physician felt that the purpura was secondary to the use of high dose aerosol corticosteroids.

The risk factors associated with systemic effects of aerosol corticosteroids include increased dose (≥1500 mcg beclomethasone) and duration of treatment. Whether the use of spacer affects risk is unknown. It appears that both budesonide in this case and beclomethasone in other cases may produce purpura.

Pharmacists should be aware that high dose aerosol corticosteroids may cause purpura, as well as other systemic adverse effects including skin thinning, adrenocorticoid suppression, decreased insulin sensitivity, behavioural changes and possibly posterior subcapsular cataracts. Purpura is a visible sign of corticosteroid toxicity, suggesting other less easily detected effects may also be occurring. Assessment of compliance is essential to identify excessive use of inhaled corticosteroids, since higher doses increase the risk for systemic adverse effects.

REFERENCES