



### H182 Sudden Unexpected Death in Pemphigus Vulgaris: An Autopsy Report

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**Learning Overview:** The goal of this presentation is to discuss sudden death in a case of pemphigus vulgaris. The fatal event was precipitated by the steroid used for the treatment of a skin disease.

**Impact on the Forensic Science Community:** This presentation will impact the forensic science community by suggesting that the forensic pathologist should be aware of the medication history of the deceased and any complications of the medications, even when the dose is well regulated.

Sudden deaths form a significant proportion of autopsies globally. The incidence of sudden deaths varies globally owing to the variations in the prevalence of various diseases in different countries and environmental and genetic factors. The incidence of sudden death has been reported to vary from 1.8% to 31% in various studies worldwide. While most of the sudden deaths are attributed to cardiac and respiratory causes, dermatological conditions are rarely implicated in sudden deaths.

As per the World Health Organization (WHO), the death rate due to skin diseases in India is about 1.63 per lac population. Most common fatal skin diseases include Harlequin ichthyosis, epidermolysis bullosa, Ehlers-Danlos Syndrome, methicillin-resistant *Staphylococcus aureus*, toxic epidermal necrolysis, basal cell carcinoma, squamous cell carcinoma, scleroderma, leishmaniasis, and pemphigus, among others. The literature on complications of steroid therapy in pemphigus patients is limited.

A 57-year-old non-alcoholic, non-hypertensive, and non-diabetic man was diagnosed with severe pemphigus vulgaris 14 weeks prior to his death and was under systemic steroid therapy (oral prednisone 80mg/day) since then. His skin lesions were improving; however, his blood pressure recorded during the last follow up, one week before death, was 150/100mm Hg and pulse was 100/min. During the 14 weeks of treatment, the patient had gained 10kg weight. On the fateful day, the deceased collapsed while taking a bath in the morning and was brought to the emergency department of a hospital where he was declared dead on arrival.

At postmortem examination, pemphigus lesions were present over the trunk and thighs evenly in the form of collapsed blisters, erosions, and crusting. Inflammatory and healing changes were seen in some of the lesions over the thighs. Histopathological examination of skin lesions confirmed pemphigus vulgaris with intraepidermal separation of keratinocytes and “rounding off” at the suprabasal layer. The lungs weighed 580gm each, and on histopathology, showed severe interstitial lung disease with capillary congestion, and hemosiderin laden heart failure cells with old hemorrhages. The liver weighed 2,017gm and showed micro vesicular steatosis with focal vascular dilatation and congestion on microscopy. The spleen showed congestion of red pulp with depletion of white pulp and medial hypertrophy of blood vessels on microscopic examination. The heart was enlarged and weighed 518gm without any valvular or aortic outflow obstruction. Hypertrophy of cardiac myocytes was observed on histopathology. Renal vasculatures showed medial hypertrophy with intimal thickening and mild peritubular capillary congestion on histopathology. The vitreous glucose level was 105gm/dl.

These findings suggest that the deceased was suffering from chronic systemic hypertension and chronic cardiac failure, which was potentially aggravated by the steroid treatment, causing sudden collapse.

#### Autoimmune Disease, Hypertensive Changes, Steroid Therapy