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Transient Telangiectatic Purpura: A Rare Post-Operative Phenomenon

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CASE REPORT

Transient Telangiectatic Purpura: A Rare Post-operative Phenomenon

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Abstract

Axillary lymph node dissection (ALND) is a surgical procedure for malignant disease with well known complications, that is less well known is its association with a painless dermatomal rash formally known as transient telangiectatic purpura. This is a case report describing a case of transient telangiectatic purpura, describing its natural history and inferring on its pathophysiology.

Keywords: Transient telangiectatic purpura, Axillary lymph node dissection

1. Introduction

Axillary lymph node dissection (ALND) is a surgical procedure utilized for malignant disease involving the axillary lymph node. Commonly performed for its prognostication index and therapeutic effects, it is a procedure with well-known complications including hematoma, seroma, lymphedema, shoulder dysfunction, neuropraxia, wound infection and chronic limb pain.[1,2] A rare complication of ALND is a self-limiting condition known as transient telangiectatic purpura. This rash typically presents four to six after weeks ALND and resolves on its own in four to six weeks after onset with no known sequelae.[6] We present a case of delayed onset of transient telangiectatic purpura post ALND to add to the literature.

2. Case

An 83-year-old male with past medical history of undifferentiated pleomorphic dermal sarcoma located on the scalp with metastasis to right upper extremity requiring radiation to right arm and axilla presented to the hospital for a progressive rash that originated on his right anterior shoulder and subsequently spread across his chest towards his left flank. He denied any fevers, chills, pruritis, drainage, tenderness or increased heat. On further questioning, patient reported undergoing ALND with 35 lymph node dissection three months prior and JP drain removal five weeks prior to rash formation.

Patient was hemodynamically stable. On physical exam, patient had a nontender, blanching, erythematous rash following T1-T9 dermatomes with darker non-blanching purpura inferiorly, trace lymphedema under right axilla and flank (see Fig. 1). Complete Blood Count and Complete Metabolic Panel were within normal limits. Chest

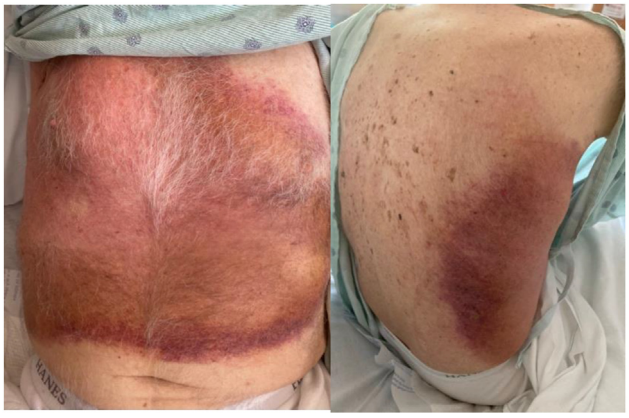

Fig. 1. Well demarcated confluent heterogenous erythematous rash seen on presentation. The rash is blanching in bright red areas, but is non-blanching towards the periphery especially in darker areas.

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x-ray and CT chest showed no acute pathology. Patient was monitored off of antibiotics and subsequently discharged home with recommendations to follow up with dermatology outpatient.

Patient underwent a punch biopsy x2 which noted extravasated red blood cells and telangiectasia. Biopsy results in addition to patient's recent ALND were consistent with transient telangiectatic purpura. The rash resolved on its own in approximately 4–6 weeks by patient estimation on follow up phone call.

3. Discussion

Our patient's history of ALND and subsequent development of rash in combination with the skin biopsy finding led to the diagnosis of transient telangiectatic purpura. The pathophysiology behind this phenomenon remains unclear however givens its dermatomal distribution and association with ALND, it has been theorized the process may be mediated by neurogenic inflammation.[3]

ALND is used for diagnosis and surgical treatment for malignant diseases involving the axillary lymph node, such as breast cancer, melanoma, and, in our case, dermal sarcoma. The procedure involves removal off all lymph nodes in level I to III. The motor nerves, long thoracic and thoracodorsal nerves, are preserved and the sensory nerves are removed. The autonomic peripheral nervous system respond to this noxious stimulus by releasing calcitonin gene related peptide (CGRP) and Substance P (SP) leading to vasodilation and plasma extravasation respectively.[4] CGRP, SP, among other cell mediators are released from sensory neurons in the periphery causing cascade of events including, but not limited to, activation of the immune system including direct activity on mast cells, dendritic cells, and lymphocytes.[5] Given that this phenomenon has not been identified with other surgeries suggests that its pathophysiology may in fact be a maladaptive immune response mediated by both neurogenic inflammation and/or disruption of the lymphatic system.

Literature review revealed less than a dozen reported cases of painless dermatomal rash following ALND procedure. The rash appeared anywhere between four to six weeks post procedure and resolved within four to six weeks of onset.[6] In our case, the patient's delayed presentation of rash (approximately 90 days for surgery date) may be attributed to his unusual prolonged drain placement. This further suggests that this phenomenon is an inflammatory response to the disruption of the lymphatic system.

4. Conclusion

Transient Telangiectatic Purpura is a self-limiting post-operative phenomenon associated with ALND with no known sequelae. Although the clinical course is benign, understanding the underlying pathophysiology may pave the road to a better understanding of the nervous system and body's immune response. Understanding this cascade may lead to an advancement in our ability to target and suppress immune mediated diseases.

Ethics information

The authors of this article ensured that the privacy and confidentiality of all participants was maintained.

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Data availability

This is a case report and thus has no associated data that needs to be accessible.

Conflicts of interest

The authors listed above have no conflicts of interest to disclose.

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