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Published in:
British Medical Journal

Document Version:
Publisher's PDF, also known as Version of record

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Subcutaneous inflammation mimicking metastatic malignancy induced by injection of mistletoe extract
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We describe the histological features of subcutaneous inflammation induced by mistletoe, a popular Christmas decoration, when used as an anticancer complementary therapy. We also outline the use of extract of mistletoe in this context.

Case report
A 61 year old woman attending a follow-up appointment two months after excision of tubular carcinoma of the breast complained of an abdominal wall mass. The lesion was subcutaneous, mildly tender, and had a nodular consistency. The patient was worried that the soft tissue mass might be a recurrence and had a nodular consistency. The patient was looking for AT was not requested to avoid any problems at home for Christmas.

The microscopic features of the subcutaneous inflammation seen in dermatomyositis are indistinguishable from those seen in lupus, but a muscle biopsy would be needed to make such a diagnosis. Traumatic and factitial panniculitis are characterised by a mixed lobular and septal panniculitis, but they can be excluded in this case because of the absence of fat cyst formation, necrosis, and infiltrates of macrophages and multinucleate giant cells. Such features are also seen in post-steroid panniculitis, where multiple subcutaneous nodules develop up to a month after cessation of steroids.

Our patient satisfied none of the 11 diagnostic criteria for systemic lupus erythematosus as set out by the American Rheumatism Association. After discussion with her surgeon, it transpired that the patient had been receiving subcutaneous injections of mistletoe extract as complementary therapy aimed at treating her lymphoma. She used an aqueous, whole plant extract of mistletoe grown on ash trees, called “Abnoba mistletoe”.

Fig 1 Medium power view (×200) of follicular aggregates of lymphoid cells in a peripheral distribution with a heavy infiltrate of eosinophils in the background.
viscum fraxini.” This was a self-administered subcutaneous injection (20 mg three times a week), which she started 12 months before presentation. She had heard about the use of mistletoe extract in palliative oncology from a friend, and she was referred to a complementary therapist through her general practitioner. She is still in remission two and a half years later with no further side effects. Her injection site corresponded with the site of excision so, in view of her negative investigations, signs, and symptoms of lupus erythematosus, we considered the microscopic features to be a direct inflammatory response to mistletoe extract and conducted a review of the literature to compare our findings.

Discussion

Mistletoe (Viscum album) is a semiparasitic woody perennial that grows on several species of tree, including elm, apple, pine, and oak. It is used as a Christmas decoration in the United Kingdom with the tradition of kissing anyone who lingers under it. The first reference to its medical use is in the Bible as a cure for epilepsy. The young King David is said to have seen a woman collapse in a fit. An angel appeared to him as he prayed for a remedy, announcing “Whoever wears the oak mistletoe in a finger ring on the right hand, so that the mistletoe touches the hand, will never again be bothered by the falling sickness.”

Today, despite the lack of robust data supporting the use of mistletoe as an anticancer drug, it is widely used in middle Europe; around €23m (£16m; $30m) is spent on the preparation each year,10 €23m (£16m; $30m) is spent on the preparation each year, and 11

Local reactions have been documented previously, usually manifesting as erythema or pain.12 Two reports of histologically assessed inflammation induced by mistletoe exist in the medical literature. A 61 year old man with a T3NXMX pancreatic adenocarcinoma who was treated with once weekly intratumorous and peritumorous injections of mistletoe for five weeks underwent diagnostic needle core biopsy on day 28 after starting treatment. The biopsy showed adenocarcinoma admixed with neutrophils and eosinophils. A further study documents the histology of seven patients with subcutaneous inflammation induced by whole plant mistletoe extract. The microscopic pattern was of a dense perivascular lymphoid infiltrate and increased monocytes.14 An infiltrate of plasma cells or eosinophils was not seen. Both accounts support the notion that the microscopic features of panniculitis in our case are caused by subcutaneous mistletoe administration. Ours is the first documented account of a combined pattern of a heavy infiltrate of eosinophils, perivascular lymphoid aggregates, and mild vasculitis.

This case taught us the importance of good communication. We may never have known the underlying cause of the inflammation without an honest working relationship between the pathologists and surgeons, and between the surgeon and his patient. This story also shows that patients sometimes withhold information from us. In this case, the patient may have assumed that alternative therapies have no relevance in conventional medical consultations.

Many thanks to GT Williams, University Hospital of Wales, Cardiff, for help with the photographs. AIF wrote the manuscript and helped manage the case as a trainee therapist supervised by WDE SA McC helped in the clinical care of the patient and contributed her clinical history. WDT is guarantor.

Funding: None.

Competing interests: None declared.

References


(Accepted 20 November 2006)

doi 10.1136/bmj.39044.460023.BE

Fig 2 High power view (×400) showing vasculitis—small blood vessel destruction and inflammation with a prominent eosinophilic component. Note the red blood cells within the vessel lumens.