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ISOLATED THROMBOCYTOPENIA AS THE INITIAL AND SOLE MANIFESTATION OF BONE MARROW B-CELL LYMPHOMA IN AN ELDERLY FEMALE

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ABSTRACT

B-cell lymphomas are highly aggressive forms of lymphoma that commonly present with lymphadenopathy, systemic "B" symptoms, or organ involvement making them easy to recognize; however, a small percentage of B-cell lymphomas can present without any typical symptoms or evidence of lymphadenopathy, resulting in delayed recognition and management. Isolated thrombocytopenia without anaemia or leukopenia is an unusual presentation of B cell lymphomas and may be misdiagnosed as immune thrombocytopenia (ITP). Given the rarity of this presentation, we wish to report a case of a 76-year-old female who presented with palpitations, shortness of breath, and recurrent chest infections. She was found to have isolated thrombocytopenia (platelet count 57 $\times 10^9$/l) with otherwise normal laboratory findings. Initial treatment for presumed ITP was unsuccessful, which lead to more invasive investigations. Bone marrow biopsy revealed infiltration with atypical lymphoid nodules consistent with B-cell non-Hodgkin lymphoma. Following chemotherapy, her platelet counts normalized. This case highlights the importance of bone marrow evaluation in elderly patients with unexplained thrombocytopenia, even in the absence of typical lymphoma features.

KEYWORDS

B-cell lymphoma, isolated thrombocytopenia, immune thrombocytopenia, bone marrow biopsy, diagnostic delay

LEARNING POINTS

- This case demonstrates absence of lymphadenopathy or systemic symptoms does not exclude bone marrow infiltration by lymphoma.
- Early recognition and accurate diagnosis of atypical lymphoma presentations are essential to avoid treatment delays and improve patient outcomes.
- Bone marrow biopsy plays a crucial role in diagnosing occult B-cell lymphoma in cases lacking systemic symptoms or lymphadenopathy.

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INTRODUCTION

Non-Hodgkin lymphomas, particularly those of B-cell origin, typically present with lymphadenopathy, constitutional symptoms, or extra nodal involvement. Haematologic abnormalities such as pancytopenia or bicytopenia are frequent in advanced disease; however, isolated thrombocytopenia is an uncommon primary manifestation. Immune thrombocytopenia (ITP) is often diagnosed empirically in such patients, potentially delaying the recognition of occult hematologic malignancies.

Secondary ITP has been described as a paraneoplastic phenomenon in lymphoma, often associated with splenomegaly or nodal involvement. In rare cases, B-cell lymphoma may directly infiltrate the bone marrow, leading to cytopenia without systemic symptoms or radiologic findings. Such presentations can pose significant diagnostic challenges and highlight the need for thorough evaluation in atypical thrombocytopenia cases[1,2].

CASE DESCRIPTION

A 76-year-old female with a known history of Takotsubo cardiomyopathy was referred to the emergency department by her general practitioner due to palpitations and shortness of breath. She had recently recovered from a chest infection for which she had completed a course of antibiotics a couple of weeks prior to presentation to her general practitioner. On arrival, her vital signs showed a heart rate of 121 beats per minute, and an electrocardiogram confirmed sinus tachycardia. She was afebrile with a temperature of 36.8°C, her respiratory rate was 18 breaths per minute, and her blood pressure was 119/70 mmHg. She denied any history of weight loss, night sweats, or other constitutional symptoms. On examination, both general physical and systemic assessments—including chest, cardiovascular, and abdominal evaluations—were unremarkable, with no evidence of lymphadenopathy, bleeding, or organomegaly. She remained afebrile throughout during hospital admission. Her temperature was checked by non-contactable thermometer in ear at least 4-6 times a day.

Initial laboratory investigations revealed isolated thrombocytopenia with a platelet count of 57 $\times 10^9$/l. Her haemoglobin was 14.7 g/dl, white cell count was 5.25 $\times 10^9$/l, and eosinophils measured 0.07 $\times 10^9$/l. Inflammatory markers were not elevated, with a C-reactive protein level of less than 5 mg/l. Given the low platelet count without any other abnormality she was offered admission for further workup for thrombocytopenia. Iron studies, vitamin B12, and serum protein electrophoresis were all within normal limits. A peripheral blood smear confirmed thrombocytopenia and showed rare fibrin strands, without clumping or abnormal cells. Coagulation parameters were normal, and her fibrinogen level was 2.8 g/l, within the reference range.

Given the isolated nature of her thrombocytopenia and the absence of other cytopenia or systemic features, a clinical diagnosis of immune thrombocytopenia was made, and she was commenced on corticosteroid therapy. Her beta-blocker dose was also adjusted to manage her tachycardia. Despite treatment with steroids, her platelet count continued to decline, reaching a minimum of 17 $\times 10^9$/l, which prompted further hematologic evaluation. A bone marrow biopsy was subsequently performed and revealed multiple lymphoid aggregates composed of atypical B cells. These findings were consistent with a diagnosis of B-cell non-Hodgkin lymphoma *(Fig. 1 and 2)*.

DISCUSSION

This case illustrates a rare and diagnostically challenging presentation of B-cell lymphoma manifesting solely as isolated thrombocytopenia. In older adults, thrombocytopenia without bleeding or obvious clinical findings often leads to a presumptive diagnosis of ITP. However, a lack of response to immunosuppressive therapy should prompt consideration of the underlying malignancy.

Bone marrow involvement caused by lymphoma may be subtle and not accompanied by radiologic or systemic signs. Early bone marrow biopsy in this patient was crucial for timely diagnosis and appropriate treatment. The literature has reported similar presentations where misdiagnosis delayed therapy[1,2].

It is imperative for clinicians to maintain a high index of suspicion for hematologic malignancy in elderly patients with unexplained cytopenia. This case supports the inclusion

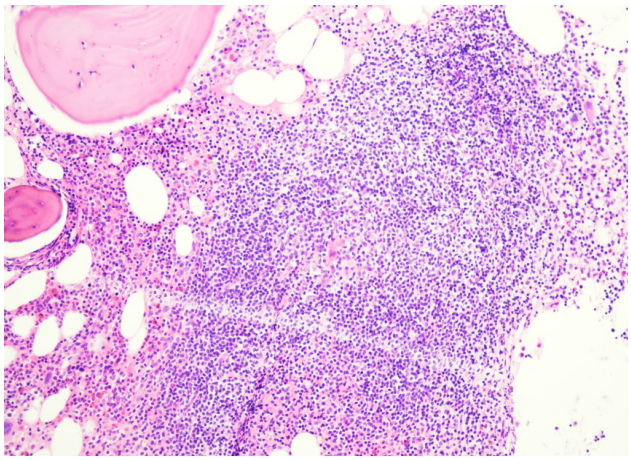


Figure 1. Diffuse infiltrates of large lymphoid cells with oval nuclei.

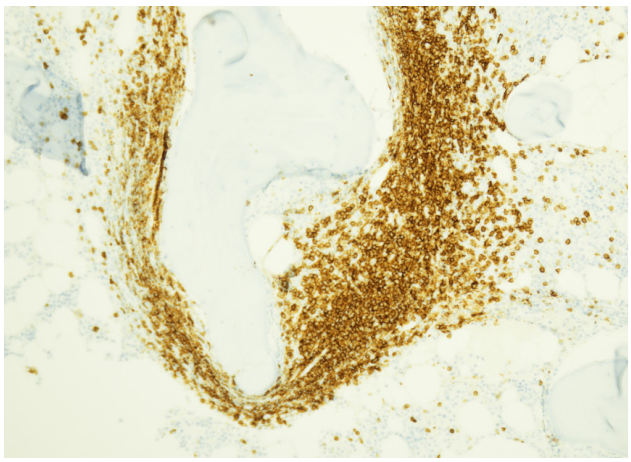


Figure 2. Immunoperoxidase staining showing loss of CD20.

of bone marrow studies in the diagnostic workup of atypical ITP, particularly when initial therapies fail[3].

A similar case was reported by Sriskandarajah and Davies, describing a previously fit and well 69-year-old man who presented with fever, sweats, and thrombocytopenia, ultimately diagnosed with bone marrow lymphoma, and emphasizing that clinicians should include this rare lymphoma subtype as part of the differential diagnosis, as early identification and treatment can be associated with a favourable outcome[4]. In contrast, our patient had no B symptoms. This contrast highlights the importance of recognizing lymphoma even in the absence of systemic features. This case is particularly noteworthy because the absence of constitutional symptoms delayed suspicion of malignancy, despite progressive thrombocytopenia. It reinforces the need for clinicians to pursue bone marrow evaluation early when standard treatments for presumed ITP fail, especially in elderly patients with isolated cytopenia.

CONCLUSION

This case highlights the importance of considering bone marrow B-cell lymphoma in elderly patients presenting with isolated thrombocytopenia and minimal systemic symptoms. Failure to respond to conventional ITP therapy should trigger further evaluation, including bone marrow biopsy. Early diagnosis is essential for initiating appropriate therapy and improving outcomes.

REFERENCES

1. Hu Y, Chen SL, Huang ZX, Gao W, An N. Case Report Diffuse large B-cell lymphoma in the primary bone marrow. *Genet Mol Res* 2015;**14**:6247-6250. doi: 10.4238/2015.June.9.10
2. Vidyaniati P, Sahiran NA, Sari Y, Kusumawardani M, Putri SA, Dewi NP. Secondary chronic immune thrombocytopenia in diffuse large B-cell lymphoma: a rare case report. *Int J Integr Health Sci* 2022;**10**:46–50. doi:10.15850/ijihs.v10n1.2603
3. Olaniyi J. An acute leukaemia masquerading as immune thrombocytopaenic purpura (ITP)? A case report. *Clin Med Case Rep* 2009;**2**:31-34. doi:10.4137/CCRep.S2394
4. Sriskandarajah P, Davies R. Thrombocytopenia and fever: not just another infection,,. *BMJ Case Rep* 2016;**2016**:bcr2016214669. doi: 10.1136/bcr-2016-214669