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CASE REPORT
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Monoclonal Gammopathy with Isolated CA 19-9 Elevation: A Rare Case

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ABSTRACT

Objective: CA 19-9 is a tumor marker used in the diagnosis of pancreatic and gastrointestinal cancers, but its isolated elevation can also be seen in benign conditions.
Method and Result: A 48-year-old man presented with complaints of abdominal pain and malaise and a CA 19-9 level of 500 U/mL. Imaging studies did not show malignancy. Serum protein electrophoresis revealed IgG class monoclonal protein and bone marrow biopsy was normal. The patient was diagnosed with monoclonal gammopathy of unknown significance. Six months later, CA 19-9 level decreased to 300 U/mL and no malignancy developed.
Conclusion: Isolated CA 19-9 elevation may be associated with causes other than malignancy and may be related to monoclonal gammopathy. In such cases, careful evaluation and unnecessary procedures should be avoided.

Keyswords: Monoclonal Gammopathy, CA 19-9, Diagnostic Difficulty, Tumor Marker.

INTRODUCTION

CA 19-9 is a glycoprotein belonging to the carcinoembryonic antigen (CEA) family and is used as an important biomarker in the diagnosis and follow-up of pancreatic, biliary tract and colorectal cancers. Normally, CA 19-9 levels are usually low, but can be markedly elevated in malignancies and some benign conditions. However, tumor markers are usually examined incidentally or in malignancy screening and isolated high CA 19-9 levels are frequently encountered in our clinical practice and may create diagnostic difficulties in some cases (1,2). Monoclonal gammopathy is a condition characterized by abnormal proliferation of blood plasma cells and is usually diagnosed by serum protein electrophoresis. Although monoclonal gammopathy is associated with many malignant diseases, it can also be seen in some benign conditions. In this context, the presence of monoclonal gammopathy with isolated elevated CA 19-9 may pose a significant clinical challenge in terms of etiologic uncertainties and management (3,4).

This case report aims to present the clinical course of a patient with isolated elevated CA 19-9 and monoclonal gammopathy of unknown significance. This case will make an important contribution especially in terms of understanding the diagnostic value of CA 19-9 and its relationship with monoclonal gammopathy. Furthermore, further investigation of such conditions may help to develop new perspectives in the monitoring and management of patients.

CASE REPORT

A 48-year-old man presented with complaints of mild abdominal pain and fatigue for the last few months. His medical history was unremarkable except for hypertension and type 2 diabetes mellitus. Physical examination revealed no significant pathology. Initial blood tests revealed normal liver function tests and renal function tests. However, when tumor markers were evaluated under malignancy screening, CA 19-9 level was found to be significantly elevated at 500 U/mL (reference range: 0-37 U/mL). Other tumor markers such as CEA and alpha feto protein (AFP) were within normal limits. Advanced imaging modalities (whole abdomen ultrasonography and computed tomography of the thorax, abdomen and pelvis) did not reveal any evidence of malignancy in the pancreas, biliary tract and liver. In addition, endoscopic retrograde cholangiopancreatography (ERCP) was performed and no pathology was detected in the biliary tract.

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A further investigation was then decided upon and the patient was investigated for possible hematologic diseases. Serum protein electrophoresis revealed an abnormal protein band in the patient's serum. This examination revealed the presence of a monoclonal protein (M-protein) in the IgG class. Monoclonal proteins are abnormal proteins originating from plasma cells and are frequently associated with malignant conditions such as multiple myeloma, Waldenström's macroglobulinemia or other plasma cell neoplasms. However, since this patient had no obvious clinical findings or organ damage, a diagnosis of monoclonal gammopathy of unknown significance (MGUS) was considered. A bone marrow biopsy was performed to confirm the diagnosis of MGUS and to confirm that the patient did not have multiple myeloma or other malignant plasma cell disorders. In the bone marrow biopsy, the proportion of plasma cells was within normal limits (less than 10%) and there was no evidence of abnormal cell proliferation. Furthermore, there were no signs of organ damage such as impaired renal function tests or hypercalcemia. These results excluded multiple myeloma or another malignant plasma cell disease and supported the diagnosis of MGUS.

The patient was followed up regularly as there were no clinical or imaging findings consistent with malignancy. Six months after the initial presentation, the patient's CA 19-9 level decreased slightly to 300 U/mL. The patient's clinical condition remained stable and no malignant disease developed.

DISCUSSION

Isolated CA 19-9 elevation may create various difficulties and diagnostic problems in our clinical practice. Although this finding is mostly associated with malignant diseases such as pancreatic cancer, it can also be seen in many benign conditions and other malignancies (5). Therefore, determination of the underlying causes of isolated elevated CA 19-9 is of critical importance in the diagnostic and therapeutic processes. Monoclonal gammopathy is a condition usually associated with malignant diseases such as multiple myeloma, leukemia or lymphoma (6,7). However, in some cases, monoclonal gammopathy may have a benign course. The isolated elevation of CA 19-9 observed in the patient in this report is remarkable because of its association with monoclonal gammopathy. In various studies, it has been reported that CA 19-9 levels are increased in individuals with monoclonal gammopathy (8,9). Although the mechanism of this is not yet fully understood, it is thought that monoclonal antibodies may affect CA 19-9 production.

The presence of monoclonal gammopathy requires a careful approach in the evaluation of isolated CA 19-9 elevation. The possibility of malignancy should be considered in patients with elevated CA 19-9 levels, but careful evaluation should be performed in the presence of monoclonal gammopathy. Diagnostic procedures such as additional imaging and biopsy may be required to establish the correct diagnosis. Isolated high CA 19-9 levels may sometimes give false positive results and lead to unnecessary invasive procedures (9). Therefore, it is important to make a decision based on clinical evaluation and the general condition of the patient.

CONCLUSION

Adopting a multidisciplinary approach in patients with isolated CA 19-9 elevation and monoclonal gammopathy is vital both to improve diagnostic accuracy and to achieve the best outcomes in the management of patients. Further investigation of such cases will contribute to the understanding of the mechanisms underlying isolated CA 19-9 elevation and the development of clinical management strategies. In particular, future studies aimed at better understanding the pathophysiological mechanisms of isolated CA 19-9 elevation will be of great importance for clinical practice.

DESCRIPTIONS

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