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Increased carotid intima-media thickness was correlated with elevated homocysteine in hyperuricemia

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Background: Hyperuricemia is known to be associated with cardiovascular disease (CVD). It was reported that elevated homocysteine (Hcy) in gout was related with decreased renal function. A high level of serum Hcy is regarded as a risk factor for CVD. However, there was no report about the relationship between Hcy and atherosclerosis in hyperuricemia. So, we investigated whether or not carotid intima-media thickness (IMT) was increased in hyperuricemia and correlation between serum Hcy level and carotid IMT in hyperuricemia. **Methods:** This study includes 1,228 patients who visited the Health Promotion Center of Chung-Ang University Hospital from January 2013 to August 2015. Biochemistry laboratory data was collected. Hyperuricemia was defined as the serum uric acid above 7.0 mg/dL, and hyperhomocysteinemia was defined as the serum Hcy above 15.0 μmol/L. **Results:** The mean ages of hyperuricemic and normouricemic (control) patients were not significantly different. Hyperuricemia group showed higher levels in serum Hcy than control group (13.65±4.47 μmol/L vs 11.68±3.65 μmol/L, $p<0.001$). Carotid IMT in hyperuricemia group was thicker than that in control group (1.13±0.66 mm vs 1.03±0.53 mm, $p=0.029$). In hyperuricemia group, carotid IMT was correlated with serum Hcy ($\gamma=0.209$, $p=0.007$), estimated glomerular filtration rate (eGFR, $\gamma=-0.318$, $p<0.001$), however, it was not correlated with serum uric acid and cholesterol. It was shown that serum Hcy level was correlated with eGFR in hyperuricemic group ($\gamma=-0.490$, $p<0.001$), whereas it was uncorrelated with cholesterol. The patients with high serum Hcy showed higher IMT than the patients with low serum Hcy (1.18±0.68 mm vs 1.02±0.52 mm, $p<0.001$). In multiple linear analyses, carotid IMT was affected by eGFR ($\beta=-0.289$, $p=0.001$), however, it was not influenced by glucose and cholesterol in hyperuricemia. **Conclusions:** Carotid IMT was higher in hyperuricemia than in normouricemia, and it was correlated with serum Hcy level in hyperuricemia. This study suggests that decreased renal function in hyperuricemia leads to elevated serum Hcy, which in turn leads to atherosclerosis.

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A case of rheumatoid factor positive multicentric reticulohistiocytosis with erosive arthritis

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Multicentric reticulohistiocytosis(MRH) is a rare non-Langerhans histiocytosis of unknown etiology. It mainly presents with papulonodular skin lesions containing a proliferation of histiocytes which associated with arthritis that primarily affects the interphalangeal joints. MRH often goes into remission after 7-8 years, but in about 45% of cases, the associated arthritis may cause severe joint destruction and can be misdiagnosed as rheumatoid arthritis or psoriatic arthritis. Diagnosis is mainly made based on biopsy. Histopathologically, dermal infiltrates of histiocytes and multinucleated giant cells with periodic acid-Schiff positive ground glass cytoplasm is characteristic. Radiographs of joints may be helpful in which changes, which may develop rapidly, are most commonly seen in PIP or DIP. Although there is no constantly effective treatment, MRH usually responds to various regimens including prednisolone, methotrexate, cyclophosphamide and other immunosuppressants, preventing further joint destruction and causing skin lesions to regress. We experienced a rare case of MRH, occurring in a 70-year old patient who presented with multiple joint pains and erythematous papulonodular lesions on the dorsum of hands, nose, scalp, and ear auricles. Rheumatoid factor was positive and plain radiographs revealed erosions of both DIP and PIP joints. Regression of arthritis and skin manifestations occurred with the treatment with methotrexate and corticosteroid.