Conclusion: The use of machine learning in diagnosing and detecting damage has mostly focused on plain radiography in patients with RA; there are limited data in PsA. Heterogeneity in the reporting of results limits succinct comparison of performance between ML methods.

Identification of studies via databases and registers

- Records identified from: PubMed, Embase, Web of Science, and Cochrane Central Register for Controlled Trials (n = 1160)
- Records excluded before screening: Duplicate records removed (n = 341)
- Records screened (n = 651)
- Reports sought for retrieval (n = 123)
- Reports excluded: No Machine Learning methods (n = 70)
- Wrong patient population (n = 20)
- Wrong modality (n = 4)
- Not English Language (n = 3)

Studies included in review (n = 26)

Figure 1. PRISMA Search Strategy

REFERENCES: NIL.

Acknowledgements: NIL.

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Patient positioning: patient positioned in a supine, sitting, or prone posture according to the location of the nerve to be treated. Different positions, pillows and/or pads can be used to restrict movement during the procedure and provide comfort for patient and physician. Identification, marking the skin, disinfection and local anesthesia. The needle entry point is calculated based on the distance and inclination angle of the needle from the skin surface to the target for better and optimal visibility of the needle tip. These settings are variable depending on the superficial or deep situation of the nerve to be treated. The entry site is then marked (with skin marker) as well as the projection of the target at the level of the skin, then the skin area is cleaned and prepared for the using standard sterile technique. The US-probe is covered with a sterile semi-transparent bag and a sterile gel is used for further analysis and intervention. A 25 G needle is used to anesthetize the skin with 1% lidocaine, and is then advanced under US-guidance with an intermittent local injection for anesthesia (and hydrolocation) until the needle comes into contact with the epineurium. The in-plane approach is my favorite. Perineural Adhesiolysis, Hydrodissection and injections. With 18 G needle (variable length according to the site to be treated) we inject under low pressure 5-10 ml of liquid (mix of normal saline and 1% lidocaine) between the compressed nerve and the connective-fatty tissue to make the end of my needle clearly seen (hydrolocation), can be repeated for the duration of the procedure. Then with the same needle, we inject 20-60 ml of normal saline all around the nerve and over the entire area where it is compressed to release it completely from all surrounding structures (hydrodissection).

Adhesiolysis is carried out when there is scar tissue around the nerve and the hydro-dissection was not effective, in this case a real mechanical needle dissection is carried out or the needle is used like a scalpel to make needling in varying directions all the scar tissue surrounding the nerve. After hydrodissection, we inject corticosteroid (5-10 ml of prednisolone acetate 125 mg) for his anti-inflammatory and anti-fibrotic effect.

Results: In my practice, we have at least 70% good results at 12 months, 20% to 25% require a 2nd session of hydrochemical neurolysis and maybe 10% will resort to surgery. The results of neurolysis seem very interesting, much better than a simple US-guided infiltration and avoids surgery in many cases.

Conclusion: Success with this hydrochemical neurolysis procedure requires knowledge of anatomy, US-imaging. The HCN is a simple, safe, precise, rapid, and effective percutaneous treatment of E.N, a great alternative to surgery.

Acknowledgements: To anesthesiologist who trained me in musculoskeletal ultrasound more than 20 years ago and to all the patients who trusted me to offer them the best care.

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IgG4-related disease (IgG4-RD) is a systemic fibroinflammatory disorder characterized by dense infiltration of IgG4-positive plasma cells in the affected tissue. The inflammatory infiltration along with storiform fibrosis can lead to the development of tumefactive lesions that may affect any organ. Type 1 Autoimmune pancreatitis (AIP) is a rare presentation of IgG4-RD that can present as a pancreatic mass and may mimic pancreatic carcinoma.

Objectives: The elevation of CA 19-9 is seen in autoimmune pancreatitis as well as pancreatic carcinoma. Therefore, it becomes difficult to differentiate between the two, especially in the presence of an elevated IgG4 level in the serum. We describe a rare instance of IgG4-related AIP with significantly high CA 19-9 levels.

Methods: Case report.

Results: Our patient is a 65-year-old male with past medical history of IgG-4 related retroperitoneal fibrosis, who presented with the complaint of worsening right upper quadrant abdominal pain, jaundice, and weight loss. Labs showed WBC count 13.7 (4.0-9.0 x 109/L) and eosinophil count 700 (50-300/cmm), ESR 94 (0-15 mm/hr) and CRP 57.9 (0-10 mg/dL). LFTs showed elevated total bilirubin 12.5 (0.1-0.2 mg/dL), alkaline phosphatase 620 (30-115 IU/L), AST 72 (5-45 IU/L), and normal ALT 52 (6-60 IU/L). Absolute CD4 count was 1152 (332-1642 cells/cmm), CD4 percentage was 80% (28-62%), CD4 to CD8 ratio was high 8.86 (0.7-4.8). CA 19-9 was elevated to 2930 (0-35 U/mL), IgG4 was elevated 162 (2-96 mg/dL).

Keywords: Malignancy, Undifferentiated connective tissue disease, Mixed connective tissue disease.

Background: In 1995, IgG4-related disease (IgG4-RD) was described by Inagaki et al. as a systemic fibroinflammatory disorder characterized by dense infiltration of IgG4-positive plasma cells in the affected tissue. The inflammatory infiltration along with storiform fibrosis can lead to the development of tumefactive lesions that may affect any organ. Type 1 Autoimmune pancreatitis (AIP) is a rare presentation of IgG4-RD that can present as a pancreatic mass and may mimic pancreatic carcinoma.

Objective: The objective of this case report is to describe a rare instance of IgG4-related AIP with significantly high CA 19-9 levels.

Methods: Case report.

Results: Our patient is a 65-year-old male with past medical history of IgG-4 related retroperitoneal fibrosis, who presented with the complaint of worsening right upper quadrant abdominal pain, jaundice, and weight loss. Labs showed WBC count 13.7 (4.0-9.0 x 109/L) and eosinophil count 700 (50-300/cmm), ESR 94 (0-15 mm/hr) and CRP 57.9 (0-10 mg/dL). LFTs showed elevated total bilirubin 12.5 (0.1-0.2 mg/dL), alkaline phosphatase 620 (30-115 IU/L), AST 72 (5-45 IU/L), and normal ALT 52 (6-60 IU/L). Absolute CD4 count was 1152 (332-1642 cells/cmm), CD4 percentage was 80% (28-62%), CD4 to CD8 ratio was high 8.86 (0.7-4.8). CA 19-9 was elevated to 2930 (0-35 U/mL), IgG4 was elevated 162 (2-96 mg/dL).

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MRCP showed multiple biliary strictures and dilatation of the main pancreatic duct. ERCP with stent placement was done to relieve biliary obstruction. EUS showed mass-like enlargement of the pancreatic head with atrophy, around the common bile duct (CBD). Biopsy of the CBD showed inflamed glandular mucosa, negative for malignancy. Pancreatic head biopsy showed normal stroma and benign mucosa, negative for malignancy. Patient had gradual improvement in bilirubin and CA 19-9 levels at ERCP and stent placement. He was started on prednisone which was followed by rituximab infusions. He followed up with rheumatology and had significant improvement in his symptoms and labs including a decrease in bilirubin to 2.8 mg/dL, alkaline phosphatase to 300 IU/L, and CA 19-9 levels to 100 U/mL within 1 month of discharge.

Conclusion: Autoimmune pancreatitis (AIP) can be difficult to distinguish from pancreatic carcinoma. High levels of CA 19-9 are usually indicative of malignancies, whereas high levels of IgG4 are characteristic of AIP. As per Van et al., the measurement of either CA 19-9 or IgG4 level alone is not accurate enough for diagnosis. However, the combination of CA 19-9 < 74 U/mL and IgG4 > 10.0 g/L distinguishes patients with AIP from patients with pancreatic carcinoma with 94 % sensitivity and 100 % specificity [1].

CA 19-9 levels can also be elevated in other GI diseases including primary sclerosing cholangitis, bacterial cholangitis, or choleclochothilasit. Differentiation between these conditions is extremely important due to the vastly different treatments and the morbidity/mortality associated with them [2,3]. IgG4-RD causing biliary obstruction with CA 19–9 elevation is a diagnostic dilemma. It can be misdiagnosed as pancreatic or cholangiocarcinoma. Our patient illustrates that IgG4-RD pseudotumors can significantly elevate CA 19-9.

In these cases, further testing and biopsy should be performed to rule out malignancy.

REFERENCES:

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AB1575

IMPACT OF MATERNAL CONNECTIVE TISSUE DISEASE ON FUNCTIONAL AND STRUCTURAL ABNORMALITIES OF THE HEART IN THE OFFSPRING

Keywords: Cardiovascular disease, Imaging, Heart


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Background: Some maternal systemic connective tissue diseases (CTD) and their associated antibodies are linked with adverse fetal outcomes, including increased risk of congenital heart diseases (CHD)[1,2]. Whether this increased risk also applies to less severe structural or functional cardiac abnormalities in the fetus is currently unknown.

Objectives: Based on a large cohort of newborns born to mothers with CTD, we aim to assess the association between maternal CTD and structural or functional cardiac abnormalities in the offspring. Data collected via medical chart review to validate the CTD diagnosis and to obtain information about disease severity, treatment, etc.

Methods: In the CBHS we included more than 25,000 newborns between April 2016 and October 2018. All newborns underwent systematic transthoracic echocardiography (TTE) within the first 60 days after birth[3,4]. The present study will include newborns from the CBHS born to mothers diagnosed with CTD, as identified through the Danish national health registries. Assuming an overall incidence of CTDs at 2% we expect to include approximately 500 newborns to mothers with CTD. Newborns born to mothers diagnosed with CTD will be matched 1:1 to newborns not exposed to maternal CTD. The size of CBHS and the comprehensive assessment of the included children provide a unique opportunity for obtaining new knowledge in this field, including better insights into whether routine TTE after birth should be considered in certain subgroups.

Results: Preliminary results are expected in spring 2023.

Conclusion: It is unclear whether children of mothers with CTD should have routine cardiac evaluation at birth, and whether certain types of maternal CTD have a higher risk of minor/subclinical CHD or less severe cardiac abnormalities in the offspring compared with children born to mothers without CTD. The size of CBHS and the comprehensive assessment of the included children provide a unique opportunity for obtaining new knowledge in this field, including better insights into whether routine TTE after birth should be considered in certain subgroups.

REFERENCES:

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AB1573

AUTOIMMUNE HEMOLYTIC ANEMIA IN CHRONIC LIVER DISEASES

Keywords: Comorbidities, Diagnostic tests

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Background: Chronic liver diseases can be associated with autoimmune diseases, their association with autoimmune hemolytic anemia (AIHA) is poorly studied.

Objectives: Our objective was to study the prevalence and the characteristics of AIHA in chronic liver diseases.

Methods: We performed a retrospective analysis of data from consecutive patients referred to our department between January 2010 to December 2019. The diagnosis of AIHA was retained in front of a positive direct coombs tests and stigmata of hemolysis (free hyperbilirubinemia, elevated lactate dehydrogenase, and low haptoglobulin) in the absence of other overt causes of constitutional or acquired hemolysis.

Results: A total of 187 patients were included with an average age of 60.2 years and a sex ratio of 1.79. Thirteen patients had an AIHA (7%). Anemia was normocytic in 77% of cases and macrocytic in 23% of cases. Five patients had a history of associated autoimmune pathologies (38.4%); autoimmune thyroiditis in two cases, one case of psoriasis, one case of Sjögren’s syndrome and one case of autoimmune thrombocytopenia. The AIHA was more frequent in cases of viral chronic liver diseases B and C (46.1%). Three patients had non-viral chronic liver diseases (23%); primary biliary cholangitis, autoimammune hepatitis, and alcohol.