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TRANSIENT ELASTOGRAPHY (FIBROSCAN); AS A NEW NON-INVASIVE DIAGNOSTIC METHOD FOR DETECTING HEPATIC INVOLVEMENT OF AMYLOIDOSIS

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Background: Demonstration of deposits by non-invasive methods is important especially for organs difficult to sample in amyloidosis. Transient elastography (fibroscan) is a diagnostic method being used to measure liver stiffness (LS) in different chronic liver diseases.

Objectives: We herein aimed to test the place of fibroscan method for detecting increased LS associated with amyloid deposition in patients (pts) with amyloidosis.

Methods: Six categories of pts enrolled into this cross-sectional study; AA amyloidosis (AA-a), AL amyloidosis (AL-a), Familial Mediterranean Fever (FMF) pts without amyloidosis, cirrhotic chronic liver disease, non-cirrhotic chronic hepatitis B infection (CHB) and healthy controls (HC). LS assessment by fibroscan were categorized as normal for kPa<7, significant stiffness for kPa≥7, advanced stiffness for kPa≥9.5 and kPa≥F4 stiffness. FIB-4 and APRI scores were calculated for each patient when they indicated chronic liver disease. Pts with known chronic liver disease and viral hepatitis excluded from amyloidosis and FMF groups.

Results: A total of 165 pts (AA-a, n=65; AL-a, n=15; FMF, n=20; cirrhotic pts, n=16; CHB, n=22; HC, n=27) constituted the study group. Average age was higher in the AL-a group compared to others. Median LS was highest in cirrhotic pts, and it was also higher in AA-a and AL-a pts compared to FMF and HC. Median LS was numerically higher in AL-a compared to AA-a, but it did not reach statistical significance. Median LS was also higher in FMF pts compared to HC. FIB-4 and APRI scores were lower compared to cirrhotic patients in AA-a and AL-a. ALP levels were higher in AA-a and AL-a groups compared to FMF, CHB and HC. FIB-4 and APRI scores, ALP and GGT levels were correlated with LS both in AA-a (r=0.534***,r=0.485***,r=0.437***, r=0.506***) and, AL-a (r=0.536*, 0.579*, r=0.645*, r=0.752**) and FMF-AA (r=0.584***, r=0.566***,r=0.322*, r=0.306*; *p<0.001, **p<0.01, *p<0.5) groups. Higher patient age, age at diagnosis of amylodosis, FIB-4 and LS scores, ALP levels, non-FMF causes of AA were associated with hepatic AA amyloid involvement in biopsy-proven pts. A cut-off value 12.05 kPa of LS provided 100% sensitivity and 85.5% specificity (LR=6.9, AUC=0.901, 95% CI 0.81-0.99) for pts with AA-a.

Conclusion: In our single center cohort, we showed a higher median LS by fibroscan in both AL-a and AA-a pts compared to CHB, FMF and HC. It was thought to be that fibroscan may be useful in detecting hepatic amyloid involvement.

Disclosure of Interests: None declared

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THE CANADIAN RESEARCH GROUP OF RHEUMATOLOGY IN IMMUNO-ONCOLOGY (CANRIO): A NATIONWIDE MULTI-CENTER PROSPECTIVE COHORT

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Background: Immune Checkpoint Inhibitors (ICI) have altered the landscape of cancer therapy. However, toxicities are common and up to 80% of patients will develop immune-related adverse events (irAE), including rheumatic irAEs (Rh-irAE), which can often limit their cancer treatment. Our knowledge of clinical manifestations and optimal management of patients with Rh-irAE continues to evolve as these agents are being used to treat a wider variety of cancers. Currently available data is limited to retrospective case series and case reports. There is also scarce data on the use of ICI in patients with pre-existing autoimmune disease (PAD) as these patients are often excluded from clinical trials.

Objectives: To describe the clinical presentation, management and early outcomes of patients exposed to ICI with Rh-irAE or PAD recruited and followed prospectively from multiple sites across Canada.

Methods: Adult patients with Rh-irAE from cancer immunotherapy (CTLA-4, PD-1 or PDL-1 inhibitors) or those with PAD exposed to cancer immunotherapy are prospectively recruited across 9 academic sites in Canada. Standardized clinical and biologic data are also collected. We describe clinical characteristics and management of patients recruited between January 2020 and October 2021, stratified based on the presence or absence of PAD.

Results: 103 patients were recruited from 9 sites. From those, 85 had Rh-irAE, 47 had pre-existing musculoskeletal and rheumatic diseases, and 20 had other PAD. The most frequent Rh-irAE were joint manifestations (n = 73). Other Rh-irAE included muscle symptoms (n = 7), connective tissue disease (n = 6), vasculitis (n=2) and sarcoid (n = 3). Prednisone was the most common treatment (n = 53). Intraarticular corticosteroids were used in 7 patients. Eleven patients required conventional synthetic disease-modifying anti-rheumatic drugs (DMARD) and only one required biologic DMARD to control the Rh-irAE. Anti-PD-1 therapies were the most used ICI (56.3%), followed by combination therapy (35.9%). Response to index immunotherapy at 6 months was available for 21 patients. Most patients had partial response (57.1%) and only 4 patients had tumor progression (19.1%). The ICI was permanently discontinued due to an irAE in 21 patients (38.1% with PAD and 61.9% without PAD). There were no deaths related to Rh-irAE.

Conclusion: The initial sample of the CanRIO prospective national cohort suggests that demographic characteristics and tumor representation in people with PAD and without PAD is similar. Patients with PAD are less likely to receive

Table 1.

	AA-a (n=65)	FMF (n=20)	AL-a (n=15)	Cirrhosis (n=16)	Chronic Hepatitis B (non-cirrhotic) (n=22)	HC (n=27)	p[1]	p[2]	p[3]	p[4]	p[5]	p[6]
Age (years)*	46 (19)	42.5(13)	58 (16)	49 (15)	45 (21)	45 (23)	0.4	0.3	0.8	0.5	0.8	***0.002***
Gender (n, %)												
Male	38 (59)	10 (50)	6 (40)	10 (62.5)	13 (59)	17 (55)	0.5	0.8	1	0.7	0.7	0.2
Female	27 (41.5)	10 (50)	9 (60)	6 (37.5)	9 (40.9)	14 (45.2)						
Diabetes Mellitus (n, %)	5 (8)	2 (11)	2 (13)	3 (15)	2 (13)	3 (10)	0.7	0.6	0.4	0.8	0.9	0.6
Body Mass Index (kg/m^2) *	25.7 (1.4)	25.6 (5.4)	24.8 (3.6)	26.7 (6.7)	25.5 (7)	26 (5.7)	0.9	0.4	1	0.7	0.7	0.3
Liver stiffness (kPa)*	6.7 (5.6)	6.45 (2.7)	9.8 (12)	26.7 (22)	5.7 (5)	4.9 (1.6)	***<0.001***	***<0.001***	***0.03***	***<0.001***	***<0.001***	0.16
Significant stiffness (kPa≥7)	31 (48)	11 (55)	8 (58)	16 (100)	4 (18)	2 (6.5)	0.4	***<0.001***	***0.012***	***<0.001***	***<0.001***	0.6
Advanced stiffness (kPa≥9.5)	17 (26)	4 (20)	7 (50)	16 (100)	3 (14)	0	0.4	***<0.001***	0.2	***0.001***	***0.02***	0.1
S4 stiffness (kPa≥12.5)	10 (15)	0	5 (36)	16 (100)	2 (9)	0	0.057	***<0.001***	0.4	***0.02***		0.1
FIB-4 score	0.97 (0.9)	0.76 (0.56)	1.3 (0.95)	2.5 (3.4)	0.85 (0.8)	0.7 (0.5)	***<0.001***	***<0.001***	0.4	***0.005***	0.6	0.1
APRI score*	0.25 (0.2)	0.26 (0.2)	0.24 (0.2)	0.77 (1.3)	0.22	0.16 (0.08)	***<0.001***	***<0.001***	0.3	***0.002***	***0.02***	0.4
					(0.2)							
ALP (U/L)*	97 (65)	79 (55)	103 (54)	79 (126)	76 (39)	67 (22)	***<0.001***	0.5	***0.002***	***<0.001***	***0.002***	0.7
GGT (U/L)*	18 (18)	17 (26)	24 (61)	24 (51)	16 (14)	14 (14)	0.07	0.2	0.2	0.07	0.2	0.08

p[1]: AA-a and FMFp[2]: AA-a and cirrhosisp[3]: AA-a and chronic liver diseasep[4]: AA-a and HCp[5]: FMF and HCp[6]: AA-a and AL-a*Median, interquartile of range

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