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OP0238

CLINICAL ANALYSIS OF 34 CASES OF CARDIAC COMPLICATIONS REQUIRING SURGICAL INTERVENTION IN SYSTEMIC LUPUS ERYTHEMATOSUS AND ASSESSMENT ABOUT MECHANISM OF DEVELOPMENT WITH IMMUNOLOGICAL ANALYSIS

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Background: In cases of systematic lupus erythematosus (SLE) that lead to surgery due to the development of heart diseases such as valvular disease, ischemic heart disease and aortic aneurysm, early detection and careful monitoring are important. An absence of background diseases or immunopathological examination of the myocardial tissue in SLE cases with cardiovascular lesions demonstrates the lack of knowledge in this area. In recent years, however, there have been reports of neutrophil extracellular traps being involved in the fulminant onset of SLE.
Objectives: This study aimed to analyze clinically and immunohistopathologically the pathophysiology of heart diseases associated with SLE.
Methods: We performed left atrial appendage resection in 34 patients, including patients with cardiovascular lesions, who underwent heart surgery for SLE complications from 2012 to 2021. Tissue analysis was conducted in 9 cases. The left atrial appendage, in cases of non-collagen valvular disease, was used as the control. Tissue staining of cardiomyocytes was carried out by adding anti-neutrophil extracellular(NE) antibodies(Abs) to anti-human IgG antibody (Ab), anti-IgM Ab and anti-C3 Ab.
Results: Of the 34 SLE patients 14 had valvular disease, 8 had ischemic heart disease and 12 had aneurysms. Preoperative SLE activity was relatively stable with only 1 patient below the CH50 standard and 6 patients above the anti-DNA Ab standard. The Ab positivity rate for the patients in this study was higher than that of the 687 SLE patients who were previously tested in 2019. The presence of anti-CL Abs was 55.6%, which was higher than the 25.5% observed in previous SLE patients. In this study, anti-SS-A and anti-RNP Abs tended to be relatively numerous. An example of immunohistochemical staining of IgG in the left atrial appendage is presented (Figure 1a). IgG deposits were not observed on the left side of the myocardial fibers in the control group, whereas IgG deposits were observed on the right side in the SLE group. Deposits were also observed in tissues that were not located in the affected areas. The presence or absence of tissue deposition in the myocardial fibers and clinical findings in 2 cases of the control group and 9 cases of the SLE complication group are reported in Table 1. IgG deposits were found in the myocardial fibers of 6 of the 9 patients in the SLE complication group, and deposits were found in the left atrial appendage tissue regardless of the type of heart disease, suggesting a potential change in the heart tissue. In the SLE group, 5 cases were positive for antiphospholipid (APS) Abs, while 7 cases were positive for either anti-SS-A or anti-RNP Abs. Only 2 cases had elevated preoperative anti-DNA Ab and complement reduction. Of the SLE complication group, 2 of the 9 cases were negative for all Abs but IgG deposits were observed in a case. Of these 4 cases were selected and stained with anti-IgM, anti-C3 and anti-NE Abs. However IgM and C3 deposits were only observed in one patient who developed myocardial infarction at the age of 39 and was triple positive for APS, anti-SS-A and anti-RNP Abs (Figure 1b). There were also no NE deposits in any of the cases. Even if complement and anti-DNA Ab levels in the serum are normal, attention should be paid to heart disease complications during the long-term observation of SLE patients. In particular, attention should be paid to various autoantibody-positive cases such as APS, anti-SS-A Ab and anti-RNP Ab. The anti-NE Ab was not stained in this study because the tissue was different from the lesion site and because it occurred during the chronic course.
Conclusion: In SLE patients who developed cardiovascular lesions and required surgery, immunological abnormalities may occur in the myocardial tissue even if serum complement and anti-DNA Ab levels are stable.

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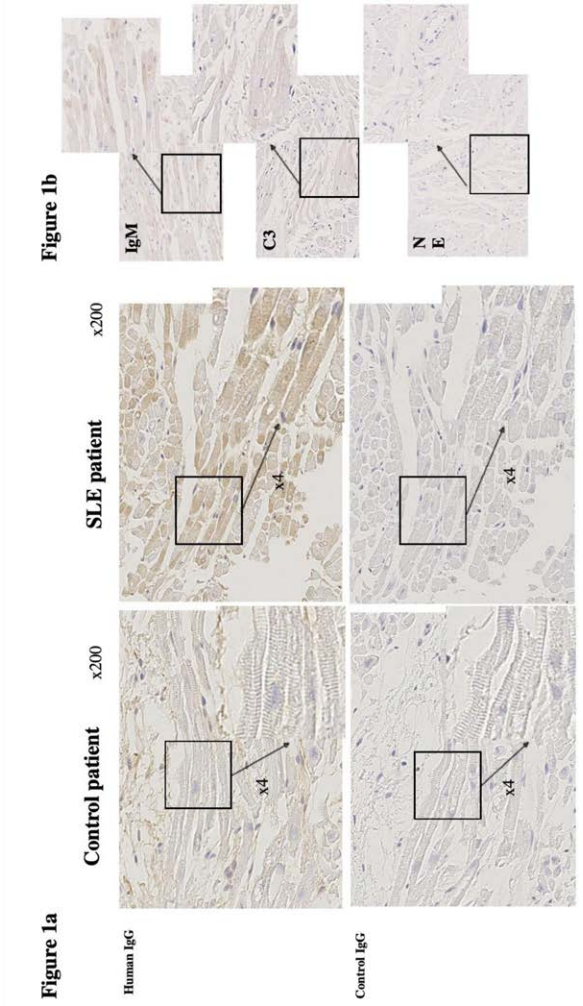
Table 1

	Subjects of operation	age	sex	cardiac muscle fiber IgG	IgM	C3	NE	CLβ2GPI	CL	LAC	SS-A	RNP	DNAab (before operation)	CH50 (before operation)
SLE	MR	61	F	++	N/E	N/E	N/E	−	+	−	+	−	−	33.9
	AS	50	F	−	N/E	N/E	N/E	−	−	−	+	−	−	46.9
	AS, AR	43	M	+	−	−	−	+	+	−	+	−	19	15.4
	AS, MR	70	F	+	−	−	−	−	−	−	−	−	−	39.3
	MR	67	F	−	−	−	−	−	−	−	−	−	−	45.3
	IHD	39	F	+++	+	+	−	+	+	+	+	+	−	45.0
	IHD	34	F	−	N/E	N/E	N/E	−	+	+	−	+	90	46.5
	IHD	59	F	+	N/E	N/E	N/E	+	+	−	−	+	−	52.4
	AR, AscAo dilatation	41	F	+	N/E	N/E	N/E	−	−	−	+	+	−	41.6
contrast	MR			−								N/E		
	MR			−										

AS : Aortic valve stenosis, MR : Mitral regurgitation, IHD : Ischemic heart disease, AR : Aortic regurgitation, AscAo : Ascending aorta, N/E : Not enforcement



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Osteoporosis

OP0239

REAL-LIFE SHORT-TERM EFFECTIVENESS OF ANTI-OSTEOPOROTIC TREATMENTS: A LONGITUDINAL COHORT STUDY

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Background: Data from randomized clinical trials showed that anti-osteoporotic treatments increase bone mineral density (BMD) and reduce the risk of fragility fractures. However, data on the real-life effectiveness of such medications is still scarce.
Objectives: The primary objective of the present study is to assess the real-life effectiveness of anti-osteoporotic treatment in a representative cohort of Italian women at high risk of fracture
Methods: We conducted a cohort study on women at high risk of fracture. We retrieved clinical and densitometric data from the DeFRA database, which derives from the DeFRA tool, a web-based fracture risk assessment tool. Multivariable Cox regression survival models were employed to analyze the effectiveness of