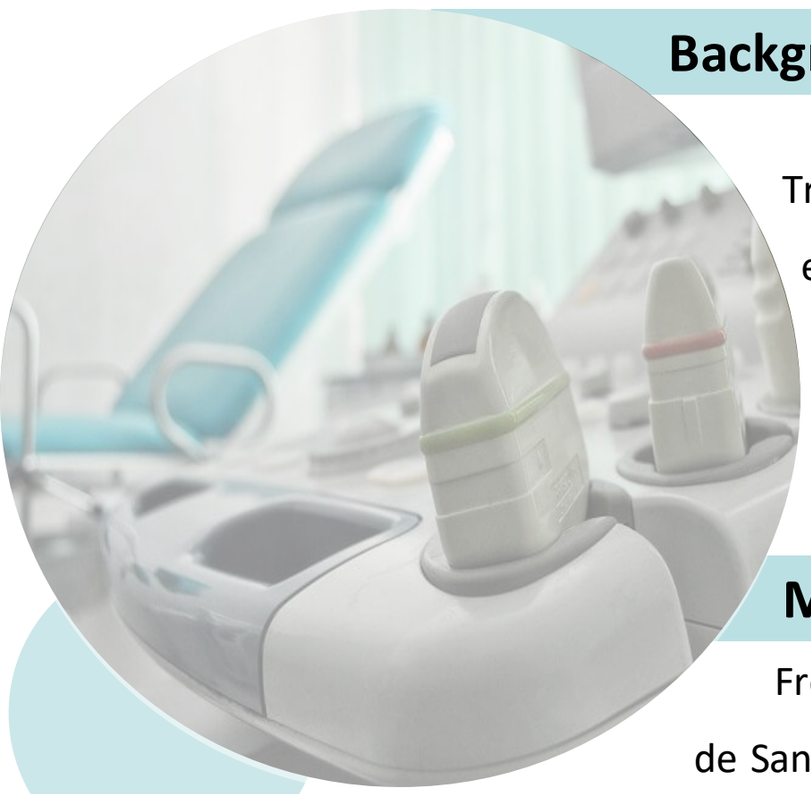
IMPORTANCE OF TRANSCRANIAL DOPPLER MONITORING IN PATIENTS WITH ACUTE CERVICAL DISSECTION

Authors: Delfino C [1], Mazzon E[1,2], Brunser A[2], Díaz V[2], Muñoz P [1,3]

[1] Centro de Estudios Clínicos, Instituto de Ciencias e Innovación en Medicina, Facultad de Medicina Clínica Alemana Universidad del Desarrollo, Chile.
[2] Departamento de Neurología y Psiquiatría, Clínica Alemana, Facultad de Medicina Clínica Alemana Universidad del Desarrollo, Chile
[3] The George Institute for Global Health, Faculty of Medicine, University of New South Wales, Sydney, Australia.

Funding: Fondecyt Regular 1181238



Background

Transcranial Doppler (TCD) ultrasonography is a practical and bedside diagnostic method to evaluate patients with acute cervical artery dissection (CAD).

The purpose of this study was to determine the prevalence of abnormal findings in TCD in CAD patients and compare them in patients with and without stroke.

Methods

From July 2018 to February 2021, consecutive patients with CAD admitted to Clínica Alemana de Santiago were included. Standard TCD, microembolic signals (MES) monitoring and breath hold Index (BHI) test were performed during the first days after admission.

Results

We found that of the 94 CAD patients admitted, 72% were women. Patient's characteristics are presented in table 1.

Most patients had a good prognosis, although six patients had a CAD related stroke.

38% of the patients had an abnormal DTC and the most frequent finding was the presence of collateral flow (23%). Altered findings in TCD are presented in table 2.

A significant association was found between CAD related stroke and the presence of MES in DTC, when compared to CAD patients without stroke.

Table 1. *Demographic characteristics*

Patients (n)	94
Age in years	40 (8.8)
Women	72
Clinical History	
Diabetes	1
Hypertension	8
Dyslipidemia	17
Migraine	34
Smoking	27
Previous infections	20
Cervical trauma	21
Dissected artery	
Right vertebral	41
Left vertebral	28
Right carotid	22
Left carotid	9

Data presented as percentage, except age which is mean (SD).

Table 2. Altered findings in TCD in patients with CD

	N	Abnormal (%)	CAD with stroke	CAD without stroke	P value
BHI	72	5 (7)	1	4	0.492
Collateral Flow	87	20 (23)	4	16	0.460
MES	80	3 (4)	2	1	**0.032**
Occlusion	87	6 (7)	2	4	0.191

Conclusions

This study supports the use of DTC in the acute management of patients, focusing on the presence of MES as potential predictor of stroke. This can be of particular utility in centers where more sophisticated evaluations are unavailable.