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Characteristics of responders and non-responders to diagnostic intra-articular injection in patients with long-standing hip and groin pain

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CONCLUSIONS

Responders to intra-articular injections have higher baseline pain and less internal rotation in a neutral hip position. Demographic factors, range of motion tests, FADDIR, HAGOS subscales, and alpha angle may not differ significantly between responders and non-responders.

BACKGROUND

Longstanding hip/groin pain (LHGP) is a diagnostic challenge. Intra-articular injection of anesthetics has been reported to have high diagnostic accuracy when compared to arthroscopic findings of intra-articular pathology. The aim of our study is to describe patient characteristics, x-ray and clinical examination findings and patient-reported outcome measures (PROMs) of responders and non-responders to guided intra-articular injection of anesthetics to the hip joint in patients with LHGP.

METHODS

Participants were recruited from an orthopedic department. Exclusion criteria were previous hip surgery, hip or lumbar pathology. The patients completed the HAGOS and were assessed with a digital inclinometer for hip ROM and the FADDIR test. The alpha angle was calculated in a Lauenstein projection x-ray. Participants received a guided intra-articular injection, confirmed by injection of 1-2ml of contrast agent prior to the injection of local anesthetics. Pain was recorded before injection and after 1, 2 and 4 hours. >50% decrease in pain at some point during the 4 hours after injection was considered a responder.

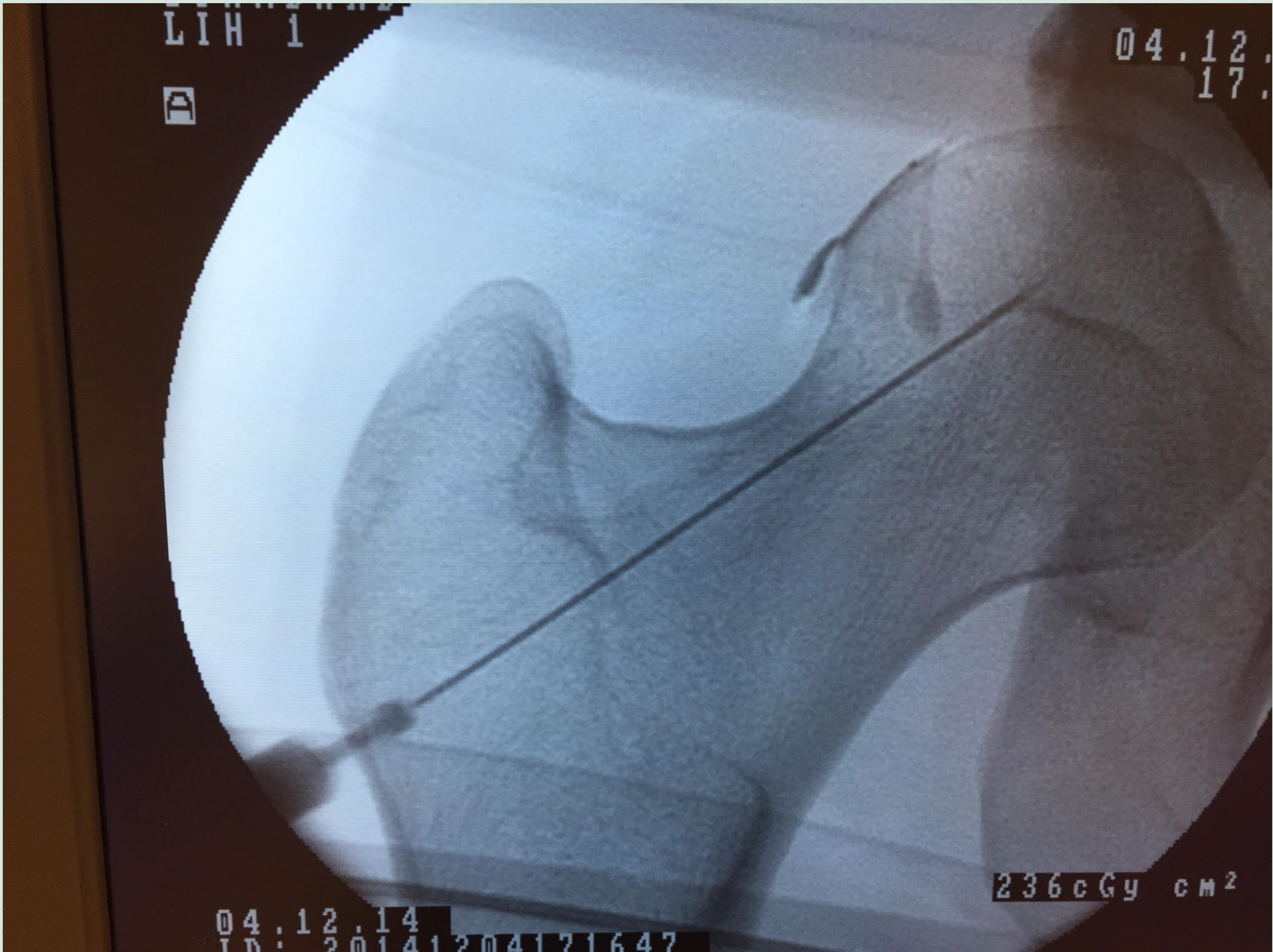


Figure21. Flourosopic imaging of contrast injection

RESULTS

Statistically significant higher baseline pain and lower ROM in internal rotation with the hip in a neutral position were observed in the responder group. No differences were observed between groups in age, BMI, the HAGOS subscales, alpha angle, FADDIR or other ROM (Table 1).

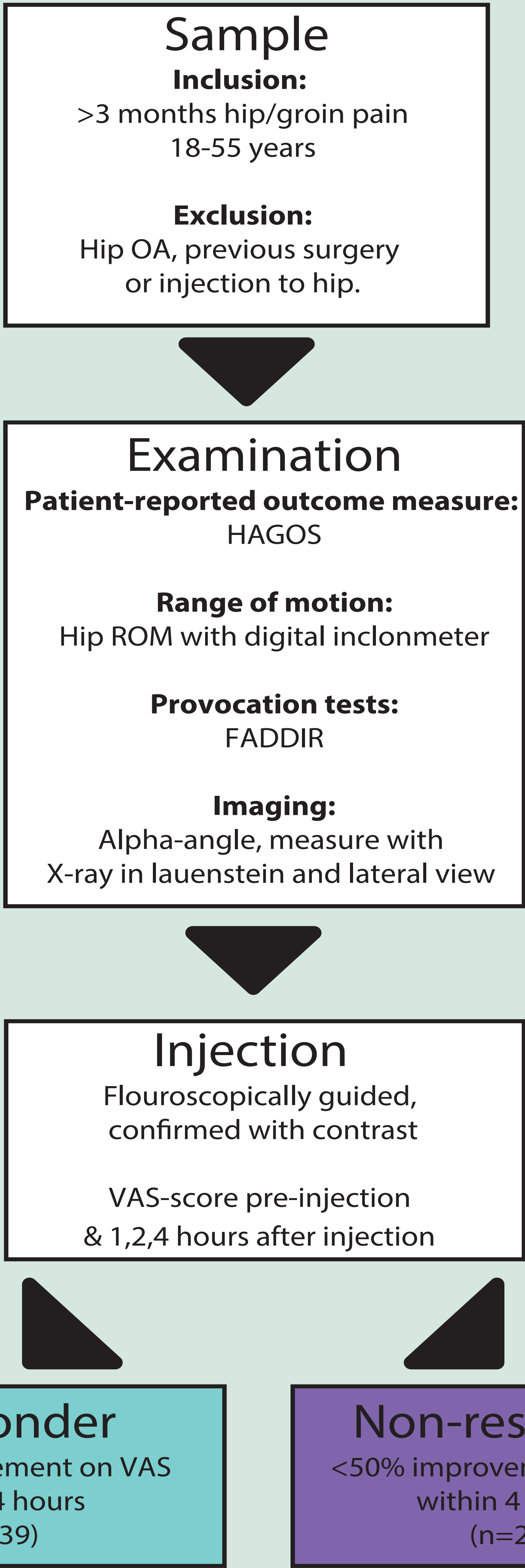


Table 1. Patient characteristics and examination data					
	Responders		Non-responders		
	Participants, n (Hips, n)	Mean (SD)	Participants, n (Hips, n)	Mean (SD)	95% CI
Age	39 (NA)	36.4 (9.3)	20 (NA)	35.8 (9.6)	-4.6;5.4
Males, n (%)	39 (NA)	22 (56%)	20 (NA)	8 (40%)	
BMI	39 (NA)	25.4 (4.2)	20 (NA)	24.7 (4.2)	-1.4;1.9
Base-line pain	39 (44)	59.4 (22.2)	20 (24)	46.1 (22.2)	1.8;24.7
HAGOS					
Symptoms	36 (NA)	56.5 (15.0)	15 (NA)	51.7 (20.4)	-5.6;15.1
Pain	36 (NA)	57.3 (17.7)	15 (NA)	52.2 (20.0)	-6.2;16.5
ADL	36 (NA)	64.2 (22.3)	15 (NA)	53.7 (25.8)	-3.9;23.9
Sports	36 (NA)	46.9 (23.2)	15 (NA)	45.2 (24.5)	-12.9;16.2
PA	36 (NA)	29.9 (29.2)	15 (NA)	30.8 (14.5)	-18.9;17.0
QoL	36 (NA)	28.1 (15.9)	15 (NA)	34.7 (33.5)	-6.5;12.6
FADDIR positive, n (%)	39 (44)	37 (84%)	20 (25)	19 (76%)	
Alpha angle, degrees	39 (41)	60.7 (15.1)	20 (20)	54.8 (11.5)	-1.7;13.5
ROM, degrees					
Flexion	39 (43)	76.6 (10.1)	19 (24)	74.7 (6.5)	-2.6;6.5
Extension	39 (43)	24.1 (4.6)	18 (23)	22.8 (6.2)	-1.0;3.1
Abduction	40 (44)	27.3 (5.8)	20 (25)	24.8 (6.2)	- 0.9;5.4
IR neutral	39 (43)	37.5 (10.8)	19 (24)	43.6 (7.2)	-11.1;-1.8
IR 90 flexion	39 (43)	27.5 (9.6)	19 (24)	29.9 (7.3)	-6.9;2.1
ER	39 (43)	39.1 (9.3)	19 (24)	38.3 (6.5)	-3.4;5.1
Total rotation	39 (43)	66.7 (12.2)	19 (24)	68.2 (11.8)	-7.7;4.6

IR - internal rotation, ER - external rotation

Figure 1. Flowchart of study design