

The clinical characteristics of pain in patients with pituitary adenomas



Dimopoulou C, Athanasoulia AP, Hanisch E, Held S, Tölle T, Sprenger T, Ziegglansberger W, Pfister H, Römmler J, Schopohl J, Stalla GK & Sievers C

Clinical presentation of pituitary adenomas frequently involves pain, particularly headache, probably due to both structural and functional properties of the tumour.

Methods

In a retrospective analysis, we investigated clinical characteristics of pain in 278 patients with pituitary disease (n=81 acromegaly; n=45 Cushing's disease; n=92 prolactinoma; n=60 non-functioning pituitary adenoma) presenting with any kind of pain between 1990 and 2012. Specific pain patterns were measured using three standardized pain questionnaires, the DSF (Deutscher Schmerz Fragebogen), the MIDAS (Migraine Disability Assessment) and the painDETECT questionnaire.

Results

Demography	All patients n=278		Acromegaly n=81		CD n=45		Prolactinoma n=92		NFPA n=60	
	N	%	N	%	N	%	N	%	N	%
Sex										
- Male	108	38,8	38	46,9	8	17,8	23	25	39	65
- Female	170	61,2	43	53,1	37	82,2	69	75	21	35
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Age	52,8	13,2	55,5	11,8	46,2	11,1	49,2	13,8	60,2	10,6
Tumour characteristics										
- macroadenoma	183	58,8	53	65	15	33,3	45	48,9	50	83
- microadenoma	87	31,3	6	7	30	66,7	47	51,1	4	7
- no data available	28	10,1	22	28					6	10
Treatment	N	%	N	%	N	%	N	%	N	%
- surgery	182	65,5	73	90,1	44	97,8	13	14,8	52	86,7
- radiotherapy	51	18,3	20	24,7	14	31,1	2	2,3	15	25,0

Table 1 Clinical characteristics of the study population.

Primary pain site	All patients		Acromegaly		CD		Prolactinoma		NFPA	
	N	%	N	%	N	%	N	%	N	%
Lower back/bottom	186	66,9	59	72,8	21	46,7	63	68,5	43	71,7
Neck/nape of the neck	184	66,2	57	70,4	21	46,7	64	69,6	42	70,0
Shoulder/arm/hand	183	65,8	60	74,1	17	37,8	63	68,5	43	71,7
Pain quality	N	%	N	%	N	%	N	%	N	%
deep pain	180	64,7	50	61,7	36	80,0	59	64,1	35	58,3
surface pain	23	8,3	7	8,6	3	6,7	11	12,0	2	3,3
Pain side-variability	N	%	N	%	N	%	N	%	N	%
Positive family history	25	9,0	10	12,3	1	2,2	5	5,4	9	15
Pain frequency	N	%	N	%	N	%	N	%	N	%
episodic	115	41,4	28	34,6	22	48,9	41	41,6	24	40,0
permanent/chronic	58	20,9	20	24,7	12	30,8	14	15,2	12	20,0
chronic with pain attacks	28	10,1	9	11,1	5	12,8	10	10,9	4	6,7
Pain duration	N	%	N	%	N	%	N	%	N	%
Hours	68	23,7	15	18,5	11	24,4	25	27,2	15	25,0
Days	43	15,5	13	16,0	9	20	15	16,3	6	10,0
Minutes	23	8,3	5	6,2	5	11,1	7	7,6	6	10,0
Pain intensity	Median	IQR	Median	IQR	Median	IQR	Median	IQR	Median	IQR
Median	4,0	2,7-5,0	4,0	2,7-5,2	4,0	3,0-6,0	3,0	2,0-5,0	4,5	3,0-5,0
Most severe	6,0	4,0-8,0	6,0	4,0-8,0	7,0	5,0-8,0	6,0	4,7-8,0	6,0	4,0-8,0
Mildest	2,0	0,0-3,0	2,0	0,0-3,0	2,0	0,0-3,0	1,0	0,0-2,2	2,0	0,0-3,0
Pain triggers/causes	N	%	N	%	N	%	N	%	N	%
physical stress	114	41,0	30	37,0	25	55,6	36	39,1	23	38,3
disease	79	28,4	27	33,3	25	55,6	15	16,3	12	20,0
emotional stress	57	20,5	14	17,3	13	28,9	25	27,2	5	8,3
Pain associated features	N	%	N	%	N	%	N	%	N	%
Visual disturbances	77	27,7	20	24,7	15	33,3	25	27,2	17	28,3
Noise sensitivity	53	19,0	12	14,8	17	37,8	17	18,5	7	11,7
Nausea	52	18,7	14	17,2	11	24,4	10	10,9	7	11,7

Table 2 Pain characteristics according to DSF.

Conclusions / Discussion

- Pain appears to be a significant problem in pituitary disease and is associated with a range of pain phenotypes.
- A combination of factors including tumour activity, cavernous sinus invasion, as well as previous predisposition to pain might play a role in pain phenotypes.

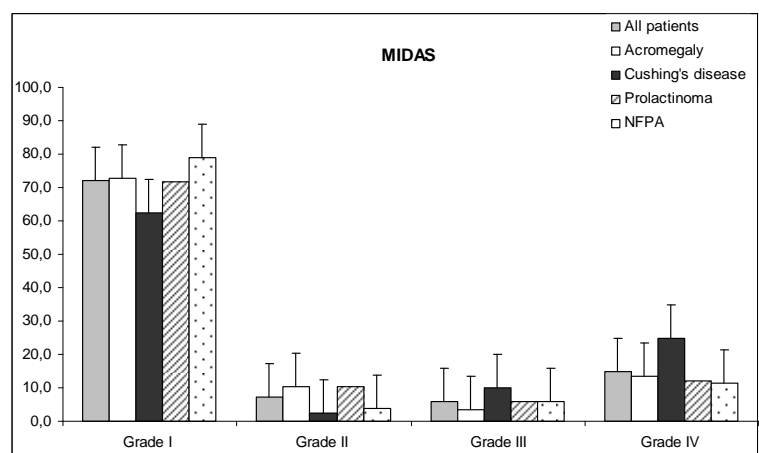


Figure 1 Distribution of MIDAS scores in the overall study population and according to each tumour subtype. Mean MIDAS score for the whole group were 12.1 ±33.3 days. The majority of the patients (72%) presented with little or no migraine-related disability (Grade I).

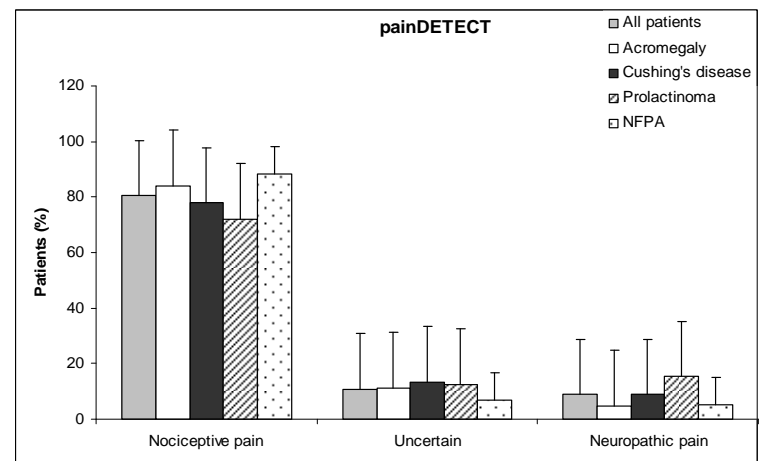


Figure 2 Distribution of painDETECT scores in the overall study population and according to each tumour subtype. Mean painDETECT score was 7.4±7.1. The majority of the patients suffered from nociceptive pain (80.4%).

Literature

- Stewart et al. Pain 2000; 88:41-52
- Nagel et al. Schmerz 2002; 16:263-270
- Levy et al. Brain 2005; 128:1921-1930
- Freynhagen et al. Curr Med Res Opin 2006; 22:1911-1920