

Symptoms and diagnosis of brain tumours

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Early diagnosis?

- High grade gliomas
- Low grade gliomas
- Meningiomas
- Neuromas



High grade gliomas

Scottish Audit of the RCP Clinical Guidelines for Good Practice in the Management of Adults with Malignant Glioma 2000

Robert Grant, Ian R. Whittle, Anna Gregor
Western General Hospital, Edinburgh

Survey of symptoms of primary brain tumours

Ajay Bassi, BK MacDonald.

Neuro-Oncology Abstracts Maastricht Sept 2010 iii66
p180



A bit of epidemiology

- Half of brain tumours are primary, half are metastatic
- Of the 52% primary:
 - 54% neuro-epithelial
 - 20% meningeal
 - 17% sellar

CE Counsell et al Incidence of intracranial tumours in the Lothian region of Scotland 1989-90. JNNP 1996 61 143-150



Or

London IR

- Benign IC tumours 7 (3, 13)/100,000pa
- Metastatic ic tumours 4 (1, 9)/100,000pa
- Primary glioma 3 (0.7, 7)/100,000pa

Lifetime PR

- Benign IC tumours 0.5 (0.3, 0.9)/1000
- Malignant IC tumours 0.2 (0.06, 0.4)/1000

The incidence and lifetime prevalence of neurological disorders in a prospective community-based study in the UK
BK MacDonald, OC Cockerell, J Sander, SD Shorvon Brain 123 (4), 665-676



Headache

Of all patients, those that had headache without other symptoms or signs

- RCP study 1.9% (>300 patients)
- Bassi 4% (5 patients of 117)



Headache in general practice

- 1 in 5 ♀; 1 in 12 ♂ with migraine
- 1 in 20 chronic daily headache
- Neurology USC referrals are mainly for headache and I'd just like to run over the points that seem to cause confusion in a condescending manner....
- ↑icp v migraine



Lessons here

- Junior oncologists should not roll their eyes when patients say they had headaches all their lives and never got scanned.
- That is not a lesson for GPs



So how do tumours present?

<i>First Symptom</i>	<i>Number (%) (n = 310)</i>	<i>Median Duration (weeks.)</i>	<i>Inter-quartile Range (weeks)</i>	<i>At Hospital Presentation</i>
Headache	73 (23.5%)	7	3 – 11	144 (46.5%)
Seizure	66 (21.3%)	8	1 – 28	82 (26.5%)
Confusion	14 (4.5%)	4	2 – 8	95 (30.6%)
Personality Prob.	5 (1.6%)	14	12 – 16	67 (21.6%)
Visual Problem	10 (3.2%)	16	7 – 38	81 (26.1%)
Language	18 (5.8%)	4	3 – 10	110 (35.5%)
Unilat. Weakness	22 (7.1%)	3	2 – 8	111 (35.8%)
Unilat. Numbness	7 (2.3%)	2	0.2 - 8	53 (17.1%)
Unsteadiness	19 (6.1%)	8	3 – 18	129 (41.6%)
Diplopia	1 (0.3%)	2	--	31 (10.0%)
Other	75 (24.2%)	-	-	-



Symptom	All Patients (n=117)		Patients <66 (n=51)		Patients ≥66 (n=66)	
	%	n	%	n	%	n
Cognitive loss	32	38	24	12	39	26
Weakness	32	38	29	15	35	23
Headache	26	31	43	22	14	9
Dysphasia	20	23	14	7	24	16
Seizure	19	22	35	18	6	4
Visual disturbance	15	17	16	8	14	9
Gait disturbance	10	12	8	4	12	8
Fatigue	5	6	6	3	5	3
Nausea &/or vomiting	5	6	6	3	5	3
Somatosensory loss	4	5	6	3	3	2
Altered personality	4	5	4	2	5	3
Dizziness	3	3	6	3	0	0



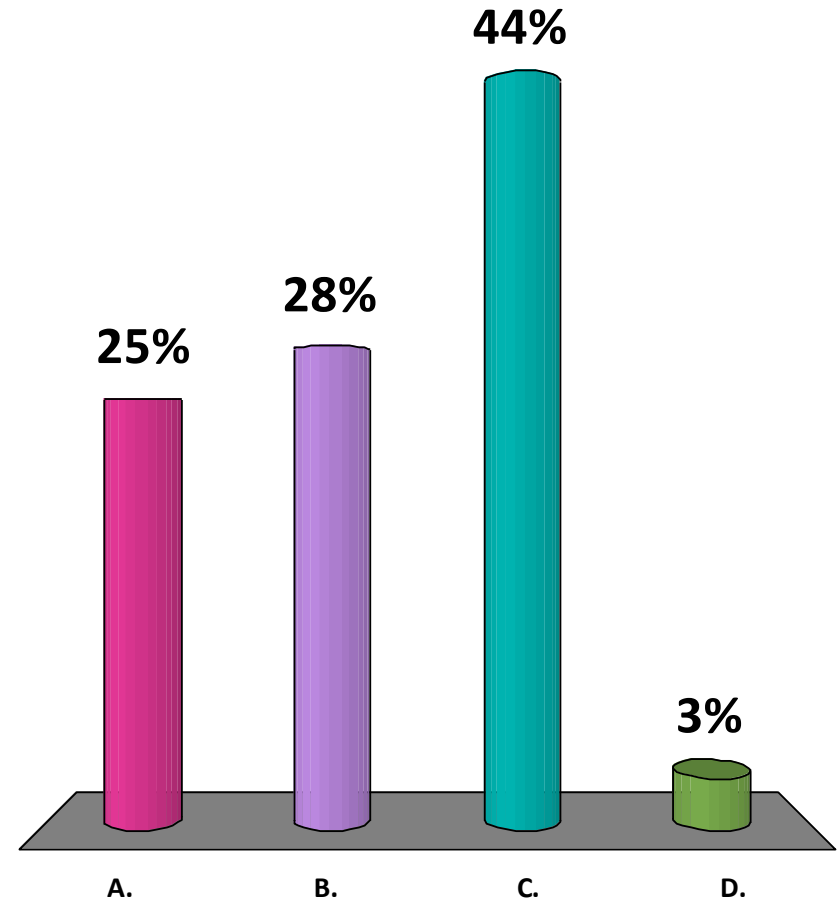
Frequency of signs found at hospital presentation and the frequency with which the patient had noted symptoms related to that sign. RCP

Sign	Number (% of total n=324)		Complained Of Symptom		No complaint Of Symptom (%)		Missing data	Sign	Number (% of total n=324)		Complained Of Symptom	
Memory/Confusion	100	(31%)	60	(66%)	31	(34%)	9	Memory/Confusion	100	(31%)	60	(66%)
Personality Problem	33	(10%)	20	(62.5%)	12	(37.5%)	1	Personality Problem	33	(10%)	20	(62.5%)
Papilloedema	40	(12%)	20	(50%)	20	(50%)	0	Papilloedema	40	(12%)	20	(50%)
Homonymous field defect	37	(11%)	19	(56%)	15	(44%)	3	Homonymous field defect	37	(11%)	19	(56%)
Unilateral visual	10	(3%)	6	(60%)	4	(40%)	0	Unilateral visual	10	(3%)	6	(60%)
Dysphasia	69	(21%)	50	(79%)	13	(21%)	6	Dysphasia	69	(21%)	50	(79%)
Hemiparesis	114	(35%)	83	(81%)	19	(19%)	12	Hemiparesis	114	(35%)	83	(81%)
Hemisensory Loss	43	(13%)	28	(72%)	11	(28%)	4	Hemisensory Loss	43	(13%)	28	(72%)
Unsteadiness	40	(12%)	30	(83%)	6	(17%)	4	Unsteadiness	40	(12%)	30	(83%)
Diplopia	13	(4%)	10	(77%)	3	(23%)	0	Diplopia	13	(4%)	10	(77%)



Q: What is the most common cancer to cause brain metastases?

- A. Melanoma
- B. Breast
- C. Lung
- D. Bowel



And metastases?

- Cause more rapid harm to cerebral / cerebellar function than gliomas.
- Account for half of intracranial tumours
- Tumours that go to brain: lung 53%, unknown 14%, breast 13%, melanoma 8%, bowel 3% and everything else

CE Counsell et al Incidence of intracranial tumours in the Lothian region of Scotland 1989-90. JNNP 1996 61 143-150



Meningiomas

- More common in women
- With increasing age
- Really hard to spot because they grow slowly, separately from brain



Pituitary

Microadenomas only cause

- Endocrine disturbance especially amenorrhoea with massively raised prolactin $>5000\text{mIU/L}$

Macroadenomas cause

- Endocrine disturbance
- Field deficits



Pointers and Imaging issues

- ICP causes papilloedema
- Many people were unaware of their non-specific signs e.g behavioural change
- Metastases show very clearly on CTs
- Lower grade gliomas and gliomatosis cerebri need more refined imaging

