

Introduction

First-line therapy for prolactin-secreting pituitary adenomas includes medical treatment with dopamine agonists (DA). Transsphenoidal surgery is indicated in patients who are resistant and/or intolerant to DA therapy, or among those presenting with acute symptoms related to mass effect on important neurovascular structures in the parasellar region. These lesions are often loosely organized, and are amenable to gross total tumor resection given their soft consistency. It has been suggested that prolonged DA therapy (>12 months) can convert prolactinomas into more fibrous lesions, rendering them more difficult to completely remove surgically. We performed a retrospective medical record review to determine the intraoperative consistency of prolactinomas after prolonged treatment with cabergoline.

Methods

Medical records from Brigham and Women's Hospital were retrospectively reviewed for all 77 patients undergoing transsphenoidal surgery for prolactinoma from 2008-2014. Patients who did not receive DA therapy, those who had surgery prior to DA therapy, and those who presented with apoplexy were eliminated from final analysis.

Results

Biochemically and immunohistochemically confirmed prolactin-secreting pituitary adenomas were identified in 22 patients, including 10 (45.5%) patients who received cabergoline therapy for >12 months duration prior to surgery, and 12 (54.5%) patients with cabergoline therapy <12 months duration prior to surgery. The two groups were well matched with regard to preoperative presenting symptoms, medical history, radiographic findings, and dose of preoperative cabergoline therapy (2.1 mg/week, range 0.5 – 5.0mg/week vs. 2.2 mg/week, range 0.5 – 2.0mg/week, p=0.11). Intraoperative assessment of tumor consistency was equivalent between the two groups: among those with prolonged cabergoline therapy, 3 (30.0%) patients were found to have a fibrous tumor during transsphenoidal surgery as opposed to 2 (16.7%) patients among those with short term cabergoline therapy (P=0.45).

References

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Patient No.	Age	Gender	Cabergoline Therapy Duration Prior to Surgery (months)	Weekly Cabergoline Dosage (in mg) Prior to Surgery	Tumor Shrinkage Prior to Index Surgery	Indication for Surgery	Tumor Consistency
1	57	M	12	1	No	DA Resistance	Cystic
2	29	M	1	1.5	No	Neurological Decline	Necrotic
3	41	F	1	0.25	No	DA Intolerance	Nodular, Soft
4	30	F	14	1	No	DA Intolerance	Cystic
5	34	F	16	4	No	Neurological Decline	Loosely Organized
6	28	F	132	3	No	DA Resistance	Loosely Organized
7	34	F	192	0.5	No	DA Intolerance	Loosely Organized
8	52	F	216	0.5	No	DA Resistance	Hemorrhagic, soft
9	59	M	2	0.5	No	Neurological Decline	Gelatinous
10	44	F	3	2	No	DA Resistance	Loosely Organized
11	45	M	6	2	No	DA Intolerance	Gelatinous, Cystic
12	65	M	6	3	No	Neurological Decline	Firm, Adherent
13	28	M	4	2	No	DA Resistance	Hemorrhagic, Firm
14	18	F	7	0.5	No	DA Intolerance	Loosely Granulated
15	48	M	60	0.5	No	DA Resistance	Firm, Adherent
16	23	F	8	0.5	No	DA Resistance	Gelatinous, Soft
17	28	F	2	0.5	No	DA Resistance	Loosely Organized
18	38	M	26	5	No	DA Resistance	Firm, Adherent
19	27	F	48	1	Yes	DA Resistance	Loosely Organized
20	21	F	12	2	Yes	DA Resistance	Loosely Organized
21	19	F	28	3	No	DA Intolerance	Loosely Organized
22	24	F	49	2	No	DA Intolerance	Firm

Learning Objectives

By the conclusion of this session, participants should be able to: 1) Understand the effects of Cabergoline treatment on prolactinoma consistency.

2) Develop a more thorough understanding of multimodal care of prolactinomas.

Conclusions

Prolonged preoperative DA therapy did not significantly or reliably impact intraoperative assessment of tumor consistency.