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Letter to the Editor Regarding "The Effect of Preoperative Cabergoline on Prolactinoma Fibrosis: A Case Series"

Alberto Acitores Cancela[1] Víctor Rodríguez Berrocal[1,2] H. Pian-Arias[3] Juan J. Díez[4] Pedro Iglesias[4]

[1] Department of Neurosurgery, Hospital Universitario Puerta del Sur Madrid, Madrid, Spain
[2] Department of Neurosurgery, Hospital Universitario Ramón y Cajal, Madrid, Spain
[3] Department of Pathology, Hospital Universitario Ramón y Cajal, Madrid, Spain
[4] Department of Endocrinology, Hospital Universitario Puerta de Hierro Majadahonda, Madrid, Spain

Address for correspondence Alberto Acitores Cancela, MD, Attending Neurosurgeon, Department of Neurosurgery, Hospital Universitario Puerta del Sur Madrid, Madrid, Spain (e-mail: alacitores@gmail.com).

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We have read Pecorari et al's recent article on the effects of cabergoline on prolactinoma fibrosis. In their study, the authors highlight the influence of presurgical cabergoline treatment on prolactinoma consistency. We wish to underline several points of concern that, in our view, warrant further discussion.

Due to its clinical effectiveness and low toxicity profile, cabergoline has become the first-line treatment, reserving surgery for patients who failed medical therapy or for those with neurosurgical emergencies (i.e., apoplexy, visual deterioration). Pituitary tumor consistency can be mainly categorized as soft or fibrous,[1,2] and it is associated with various clinical and radiological factors such as size, cavernous sinus (CS) invasiveness, and previous treatments.[3] It is not well known whether the effectiveness of dopamine agonists (DAs) varies based on prolactinoma tumor consistency.

As stated by the authors, it has been reported that preoperative use of bromocriptine may lead to tumor fibrosis; however, preoperative cabergoline treatment has also been recently linked to significant prolactinoma fibrosis.[4,5] Fibrous pituitary tumor consistency is associated with lower resection rates and higher complication rates, which makes surgery more challenging. Therefore, prior treatment of prolactinomas with cabergoline may impact the consistency of pituitary tumors, making surgery more difficult in these cases and leading to higher complication rates.

The recent report from Pecorari et al[6] describes four male patients (mean age: 39.8 years) with pretreatment prolactin levels ranging from 957.8 to 16,487.4 ng/mL; three of them received cabergoline for at least 1 month before surgery. Following histopathology analysis, it was observed that patients who received preoperative cabergoline showed a greater degree of tumor fibrosis (50–70%) compared to the 15% fibrosis observed in one patient who did not use this drug. This finding highlights the apparent influence of presurgical cabergoline treatment in prolactinoma consistency.

In our experience, presurgical treatment with cabergoline was not statistically associated with a higher incidence of fibrous tumor consistency ($p = 1.000$, Fisher's exact test; ►**Table 1**). We herein report on 12 patients who underwent an endoscopic endonasal transsphenoidal resection (6 males; median age: 44.5 years). Nine patients received cabergoline before surgery, and none had previously undergone surgery or radiotherapy.

Chen et al[7] presented a single-center series of 290 cases reporting more fibrous prolactinomas in patients presurgically

Table 1 Patients' treatment with cabergoline presurgically and pituitary tumor consistency

Tumor consistency	Presurgical cabergoline		
	No, *n* (%)	Yes, *n* (%)	Total (*n*)
Soft	2 (66.7)	6 (66.7)	8
Fibrous	1 (33.3)	3 (33.3)	4
Total	3	9	12

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treated with bromocriptine. However, in the case of cabergoline, it is necessary to analyze a more extensive series of patients to specifically analyze its influence on tumor consistency, ideally through a multicenter study. We think that considering several variables such as prolactinoma size, CS invasiveness, prolactin levels, cabergoline usage, and dosage will be essential. These results should be compared with other DAs like bromocriptine and quinagolide. Furthermore, we consider that when reporting consistency of the pituitary tumor, it is crucial to use the same classification and histopathological analysis. In the event that presurgical therapy with cabergoline is found to be associated with more fibrous tumors, resulting in lower resection rates and higher complication rates, patients on this drug should be referred to high-volume pituitary tumor centers.[8]

Conflict of Interest
None declared.

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