SCIENTIFIC ARTICLE

Conventional and Cellular Atypical Lipomas of the Hand and Forearm: A Report of 9 Cases

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Purpose To report a case series of atypical lipomas of the hand and forearm and review the literature to define the clinical presentation, surgical approach, and postoperative complications including recurrence.

Methods All cases of atypical lipomas of the hand and forearm treated by the author between 1994 and 2010 were retrospectively reviewed. The charts were reviewed for age, gender, tumor site, symptoms, preoperative studies, tumor size, type of surgical excision, and postoperative complications including recurrence.

Results Nine cases were identified. All patients were middle-aged adults with a mean age of 55 years (range, 40–65 years). There were 5 women and 4 men. All patients presented with a single, painless, enlarging mass in either the palm or the volar forearm. Magnetic resonance imaging showed the tumors to be hyperintense on T1- and hypointense on T2-weighted images. All patients had marginal excision of the tumor. Histologically, 5 tumors were conventional, and 4 tumors were cellular atypical lipomas. The mean follow-up was 10 years (range, 6–16 years). There was no evidence of recurrence by clinical examination at final follow-up.

Conclusions The results of the current series and a review of the literature suggest that atypical lipomas of the hand and forearm may have a more benign behavior than atypical lipomas of other anatomical sites. *(J Hand Surg Am. 2016;41(5):e85–e89. Copyright © 2016 by the American Society for Surgery of the Hand. All rights reserved.)*

Type of study/level of evidence Therapeutic IV.

Key words Atypical lipoma, hand, forearm.

A TYPICAL LIPOMATOUS TUMOR IS A TERM given to a spectrum of fatty tumors that include conventional atypical lipomas, cellular atypical lipomas, dedifferentiated liposarcoma, and atypical lipomas with a liposarcomatous component.[1] The first 2 types are considered benign but with a high risk of recurrence; when they recur, there is a risk of liposarcomatous transformation. The latter 2 types have a component of well-differentiated liposarcoma. Evans[1] detailed the histological features required to differentiate conventional from cellular atypical lipomas. The conventional type is characterized by enlarged atypical nuclei and occasional mitotic figures. The cellular type is highly cellular with 1 to 4 mitotic figures per 100 high-power fields.

All types of atypical lipomatous tumors usually present as painless slowly growing masses. Hence, the differentiation between atypical lipomas and benign lipomas is based on histology. The majority of atypical lipomas are seen in the retroperitoneum, trunk, and lower limbs.[1,2] Atypical lipomas of the upper limb are uncommon and usually involve the shoulder or arm.[3] Tumors involving the hand and forearm are

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rare,[4–6] and cases in the literature have been isolated reports. Hence, there is no consensus regarding the surgical approach and recurrence of hand and forearm tumors.

The current series of 9 cases of atypical lipomas (5 conventional and 4 cellular) of the hand and forearm with long-term follow-up describes the clinical presentation, surgical approach, and postoperative complications including recurrence.

PATIENTS AND METHODS

All cases of atypical lipomas of the hand and forearm treated by the author between 1994 and 2010 were retrospectively reviewed. Tumors were classified as either conventional or cellular types as per the histological features described by Evans.[1] The charts were reviewed for age, gender, tumor site, symptoms, preoperative investigations, tumor size, type of surgical excision, and postoperative complications including recurrence.

RESULTS

Nine cases were identified: 5 were conventional and 4 were cellular atypical lipomas. The clinical data are shown in Table 1. All patients were middle-aged adults with a mean age of 55 years (range, 40–65 years). There were 5 women and 4 men. All patients presented with a single, painless, enlarging mass in either the palm or the volar forearm. None of the patients exhibited neurovascular symptoms. The duration of symptoms ranged from 7 to 16 months, and the tumors ranged in size from 4 × 5 cm to 10 × 20 cm. Except for 1 patient who had claustrophobia, all patients underwent preoperative magnetic resonance imaging (MRI), which showed the tumor mass to be hyperintense on T1- and hypointense on T2-weighted images. All tumors were subfascial, and none were intramuscular. All patients had marginal excision of the tumor mass. Five masses were described in the surgical notes as well-encapsulated, and the remaining 4 masses had no well-defined capsule. Care was given to protect the tendons and neurovascular bundles during excision of the tumor. If 1 of these vital structures traversed the tumor, the tumor was divided during the surgical dissection. Histologically, 5 tumors were conventional and 4 were cellular atypical lipomas. The histological margins in all well-encapsulated tumors were reported as negative. Margins were uncertain in poorly encapsulated tumors. Except for 1 patient who developed a seroma of the forearm that resolved spontaneously, none of the patients experienced other postoperative complications such as hematoma, infection complex regional pain

TABLE 1. Clinical Data of 9 Cases of Atypical Lipomas of the Hand and Forearm

Cases	Age (y)/ Gender	Duration of Symptoms (mo)	Tumor Site	Tumor Size (cm)	Type of Surgical Excision	Histological Type	Postoperative Complications and Recurrence	Follow-Up (y)
1	40/F	10	Distal palm	7 × 8	Marginal	Cellular	No	12
2	63/M	11	Distal palm	4 × 5	Marginal	Conventional	No	10
3	52/M	14	Volar forearm	10 × 12	Marginal	Conventional	No	6
4	55/F	16	Volar forearm	10 × 20	Marginal	Conventional	Seroma	7
5	57/F	12	Thenar area	6 × 7	Marginal	Cellular	No	14
6	48/M	7	Thenar area	4 × 5	Marginal	Conventional	No	16
7	53/F	9	Thenar area	5 × 5	Marginal	Conventional	No	10
8	61/F	10	Distal palm	5 × 5	Marginal	Cellular	No	11
9	65/M	14	Volar forearm	8 × 10	Marginal	Cellular	No	8