Clinical and pathologic features of Spitz nevus: the experience of 79 cases.

A Bogdanov-Berezovsky, L Rosenberg, E Cagnano, O Amrani, E Silberstein

Citation

A Bogdanov-Berezovsky, L Rosenberg, E Cagnano, O Amrani, E Silberstein. *Clinical and pathologic features of Spitz nevus: the experience of 79 cases.*. The Internet Journal of Plastic Surgery. 2009 Volume 7 Number 1.

Abstract

Background. Spitz Nevus still represents a challenge for dermato-pathologists in distinguishing it from malignant melanoma, particularly in adults. Spitz Nevus misdiagnosis may lead to serious consequences including malpractice claims.Objectives. The goal of the study is review of clinico-pathological characteristics of Spitz Nevi.Methods. In present study we reviewed a series of 79 consecutive patients with histologically proved Spitz Nevi between the years 1996-2004. The histological reports were evaluated for parameters associated with the lesion's diameter, location, subtype, operating setting (community clinics vs. hospital) and correlation with possible future appearance of malignant melanocytic lesions.Results. Spitz nevus prevalence among removed nevi in 8-year period is 0.6%.In our series 68.4% of patients were younger than 20 years old, equally distributed according to gender. Spitz nevi were predominantly excised in compound phase in respect to their subtype.Conclusions. We did not revealed any unique clinical features distinguishing Spitz nevus from other melanocytic nevi.

INTRODUCTION

Since the first description of spindle cell nevus by Sophie Spitz in 1948, numerous papers have been published on this controversial lesion. Spitz nevus (SN) still represents a challenge even for dermato-pathologists in distinguishing it from malignant melanoma (MM), particularly in adults [1, 8-12]. Such lesions may be a type of melanocytic neoplasm distinct from conventional melanocytic nevi and malignant melanoma [13].

SN misdiagnosis may lead to serious consequences. MM diagnosis of a lesion that in fact is benign can cause unnecessary psychological and physical morbidity resulting from prescribed evaluation, disfigurement and scarring following cancer therapy [2, 3]. Likewise, MM histologically misdiagnosed as SN may lead to delay in appropriate treatment with catastrophic consequences for the patient [4].

Misdiagnosis of melanoma is a major cause of malpractice claims involving pathologists and dermatologists with SN as one of the lesions responsible for such claims [5].

In the present study we evaluated a series of melanocytic lesions histologically diagnosed as Spitz nevus in an 8-year period.

The goal of the study is review of clinico-pathological characteristics of these lesions.

PATIENTS AND METHODS

This is a retrospective study of 79 consecutive patients with histologically diagnosed SN between the years 1996-2004. All lesions were excised by consultant and resident plastic surgeons and dermatologists at Soroka University Medical Center and Community Clinics.

The histological reports were reviewed for parameters associated with the lesion's diameter, its location, subtype, operating setting (community clinics vs. hospital) and correlation with possible future appearance of malignant melanocytic lesion.

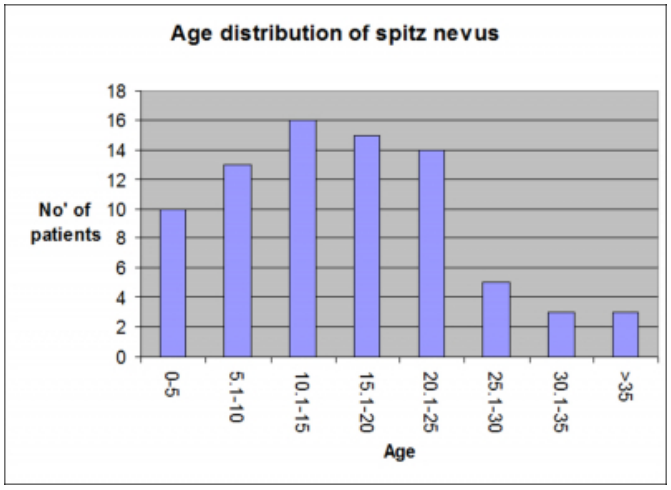
Statistical difference for parametric variables was assessed using the Student t-test and for non-parametric variables using chi-squared test.

RESULTS

79 Spitz nevi were excised between the years 1996-2004 out of 12,714 melanocytic nevi removed at the same period. Therefore the SN prevalence among removed nevi of the southern region population in Israel is 0.6%.

The mean age of patients was 16.2±10.2 years. Age distribution is presented in Figure1.

Figure 1



40 patients were males (50.6%) and 39 females (49.4%). We have not found any difference in age distribution between gender groups.

20 out of 79 (25.3%) of SN were excised by dermatologists and 59 lesions (74.7%) by plastic surgeons. There was no statistical difference between these two groups in respect to lesions diameter and location.

40 out of 79 (50.6%) were removed in the Community Clinics and 39 (49.4%) in the hospital setting.

Only 7 cases out of 79 (8.9%) were clinically diagnosed as SN, six lesions by plastic surgeons and one by dermatologist.

5 lesions were excised as suspected MM (6.3%). Almost 75% of all cases were diagnosed as pigmented nevi and rest (16%) as different benign lesions, 59 lesions (74.7%) were expected to be different sort of nevi and the rest (13 - 16.4%) were referred to the operating room following diagnoses of: hemangioma - 3, dermatofibroma - 2, pyogenic granuloma - 2, keratosis – 1, papilloma - 1, vaeruca – 1, undefined diagnosis – 3.

The body area location of SN was; head and neck – 12 (15.2%), torso – 21 (26.6%) [chest - 20 and back – 1], upper limbs – 22 (27.8%) and lower limbs – 21 (26.6%). In 3 cases (3.8%) the location was not reported. Table 1 shows detailed distribution of SN on body regions.

Figure 2

Table 1. Location of Spitz nevus

Location	Number (%)
Forehead	2 (2.5)
Temple	3 (3.8)
Periauricular	6 (7.6)
Cheek	3 (3.8)
Nose	1 (1.3)
Upper limbs	22 (27.8)
Chest	20 (25.3)
Back	1 (1.3)
Lower limbs	21 (26.6)
Total	79 (100)

We performed cross analysis between age, gender and location of the nevi. No statistically significant difference was found among these groups.

Mean diameter of SN was 0.54±0.31 mm. There was no statistical difference in lesion size and patients age.

4 lesions out of 79 (5.0%) were junctional Spitz nevi (JSN), 57 (72.2%) were compound (CSN) and 8 (10.1%) were intradermal SN (IDSN).

In three cases the first excision was incomplete and a second excision with histological margins control had to be performed.

DISCUSSION

Previous publications have shown different percentage of SN in adults and children and its gender distribution. Cesinaro et al [1] noticed clear predominance of nevi in patients older than 20 years old (66%), the highest ever reported in literature. Pozzo et al. [6] found 55.9% of 247 SN in children less than 10 years of age. Vollmer noticed that patient age provides critical clinical information, because SN occur mostly in children and MM – mostly in adults. He used mathematic formula for differential diagnosis between SN and MM according to patient age [14]. In the present study we reviewed a series of Spitz Nevi diagnosed and treated by our dermatologists and plastic surgeons, recording the prevalence and distribution by sex, anatomic site and their morphology.

In our series 68.4% of patients were younger than 20 years old. We divided our patients in subsequent decade classes (Figure 1). As mentioned above the majority of patients was

in their first two decades of life with SN prevalence decreasing gradually with patient's age.

The distribution of patients according to gender was equal.

Clinical diagnosis seems not to play an important role as in spite of the faulty initial diagnosis as 96.2% of the lesions were excised completely in first operation and only 3 lesions needed re-excision. Patient's follow-up up to 10 years did not reveal any malignant melanocytic lesion in this cohort of patients.

It is claimed that Spitz Nevi are commonly found in the face, head, neck, thighs, buttocks and trunk [4] with prevalence of lower extremities followed by upper limbs [1, 6]. In our series SN distribution was equal on lower, upper limbs and trunk (27.8%, 26.6%, and 26.6% respectively) and less common in the head and neck area (15.2%). Regarding lesion location in different age groups of patients we did not found any difference in their distribution.

SN evolves in a manner similar to melanocytic nevus with well-defined junctional, compound and intradermal phases, usually excised at the compound stage [7]. According to natural history of SN it was reasonable to expect relatively large number of JSN among children. However we found only 4 nevi with junctional activity, distributed equally between all age groups. Most SN nevi were excised in compound stage (72.2%) that may be explained by growth kinetics of this sort of nevi [7].

As for the clinical and morphological features they were similar in both operating setting (hospital vs. community clinics).

Conclusions. Spitz nevus is relatively rare lesion with prevalence of 0.6% among excised nevi in our series.

Differing from other series we did not revealed any unique clinical features distinguishing SN from other melanocytic nevi.

References

1. Cesinaro AM, Foroni M, Sighinolfi P, Migaldi M, Trentini GP. Spitz Nevud is Relatively Frequent in Adults. A clinico-pathologic study of 247 cases related to patient`s age. Am J Dermatopathol 2005; 27: 469-475.
2. Bron JL, Jaspars EH, Molenkamp BG, Meijer S, Mooi WJ, van Leeuwen PA. Three patients with a Spitz naevus that later turned out to be a melanoma. Ned Tijdschr Geneeskd 2005; Aug 13, 149(33): 1852-1858.
3. McCarthy SW, Scolyer RA. Melanocytic Lesions of the Face: Diagnostic Pitfalls. Ann Acad Med Singapore 2004; 33(Suppl): 3S-14S.
4. Lyon V. Lumps and bumps in children – when to worry: recent trends in recognition and pathology of hemangiomas of infancy and Spitz nevi. Curr Opin Pediatr 2004; 16: 392-395.
5. Troxel D. Pitfalls in the Diagnosis of Malignant Melanoma. Findings of a Risk Management Panel Study. Am J Surg Pathol, 2003, 27; 9 (Sep), 1278-1283.
6. Dal Pozzo V, Benelli C, Restano L, Gianotti R, Cesana BM. Clinical review of 247 case records of Spitz nevus (epithelioid cell and/or spindle cell nevus). Dermatology 1997;194(1): 20-5
7. Binder SW, Asnong C, Paul E, Cochran AJ. The histology and differential diagnosis of Spitz nevus. Sem Diagn Pathol 1993; 10: 36-46.
8. Urso C. A new perspective for Spitz tumors? Am J Dermatopathol 2005 27; 4: 364-366.
9. Glasgow MA, Lain EL, Kincannon JM. Agminated Spitz nevi: report of a child with a unique dermatomal distribution. Pediatr Dermatol. 2005; 22(6): 546-9.
10. Dahlstrom JE, Scolyer RA, Thompson JF, Jain S. Spitz naevus: diagnostic problems and their management implications. Pathology 2004; 36(5): 452-7.
11. Mones JM, Ackerman AB. “Atypical” Spit`z nevus, “malignant” Spit`s nevus, and “metastasizing” Spitz`s nevus: a critique in historical respective of three concepts flawed fatally. Am J Dermatopathol 2004; 26(4):310-333.
12. Ferrara G, Argenziano G, Soyer HP, Chimenti S, Di Blasi A, Pellacani G et al. The spectrum of Spitz nevi: a clinicopathologic study of 83 cases. Arch Dermatol 2005; 14(11): 1381-7.
13. Barnhill RL. The Spitzoid lesion: rethinking Spitz tumors, atypical variants, “Spitzoid melanoma” and risk assessment. Mod Pathology 2006; 19, S21-S33.
14. Vollmer RT. Patient age in Spitz nevus and malignant melanoma. Implication of Bayes rule for differential diagnosis. Am J Clin Pathol 2004; 121, 872-877.

Author Information

Alexander Bogdanov-Berezovsky, MD
Department of Plastic Surgery and the Burn Unit, Soroka University Medical Center, Beer-Sheva, Israel, and The Center for R&D of Advanced Services in Plastic Surgery, Faculty of Health Sciences, Ben-Gurion University of the Negev, Beer-Sheva. Israel

Lior Rosenberg, MD
Department of Plastic Surgery and the Burn Unit, Soroka University Medical Center, Beer-Sheva, Israel, and The Center for R&D of Advanced Services in Plastic Surgery, Faculty of Health Sciences, Ben-Gurion University of the Negev, Beer-Sheva. Israel

Emanuella Cagnano, MD
Pathology Department, Soroka University Medical Center, Beer-Sheva, Israel, and The Center for R&D of Advanced Services in Plastic Surgery, Faculty of Health Sciences, Ben-Gurion University of the Negev, Beer-Sheva. Israel

Orna Amrani, MD
Department of Plastic Surgery and the Burn Unit, Soroka University Medical Center, Beer-Sheva, Israel, and The Center for R&D of Advanced Services in Plastic Surgery, Faculty of Health Sciences, Ben-Gurion University of the Negev, Beer-Sheva. Israel

Eldad Silberstein, MD
Department of Plastic Surgery and the Burn Unit, Soroka University Medical Center, Beer-Sheva, Israel, and The Center for R&D of Advanced Services in Plastic Surgery, Faculty of Health Sciences, Ben-Gurion University of the Negev, Beer-Sheva. Israel