

A Case Report of Spironolactone Treatment for Becker's Nevus Associated Ipsilateral Breast Hypoplasia

P3-P351

Authors: Abhilasha Banerjee M.D.¹, Rosa Sherafat-Kazemzadeh M.D.²

Hospital: ¹Department of Pediatrics, Georgetown University Hospital, Washington, D.C. ²Department of Pediatrics, Division of Pediatric Endocrinology, Diabetes, and Metabolism, Georgetown University Hospital, Washington, D.C.

Abstract

Becker's nevus (BN) is a cutaneous hamartoma known to be associated with ipsilateral breast hypoplasia in females. Due to its relationship with androgen receptors, an anti-androgen medication, spironolactone, has recently been used to suppress androgen mediation and allow for breast tissue development. Here we present the case of a young female with a Becker's nevus who was treated with spironolactone. We discuss the optimal dose needed, the potential side effects, and the beneficial results confirmed by ultrasound.

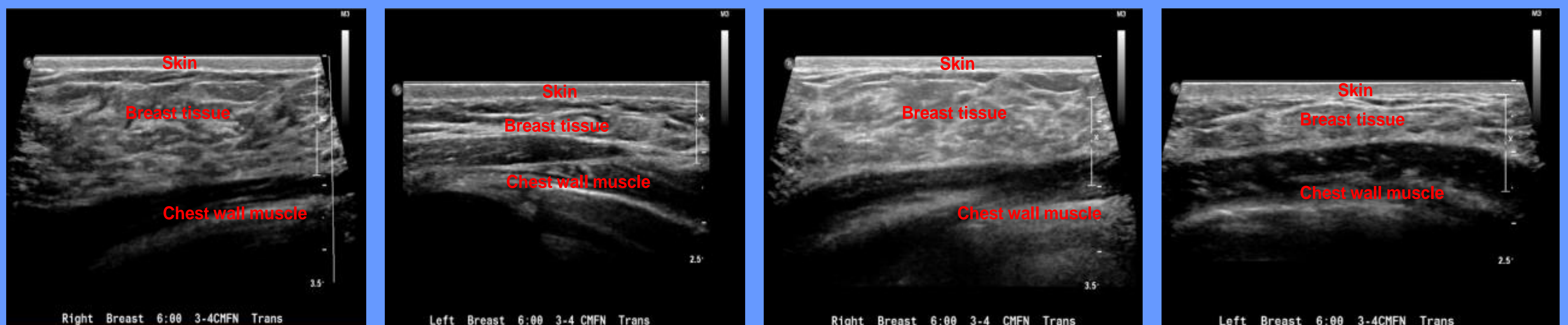
Introduction

Becker's nevus is an epidermal cutaneous hamartoma and can be the presenting feature of a larger syndrome that includes muscle, dermatological, and skeletal findings¹. Although Becker's nevi are more common among adolescent males, one specific, but rare, association in females is ipsilateral breast hypoplasia hypothesized to be secondary to increased concentration of androgen receptors within the nevus^{2,3}.

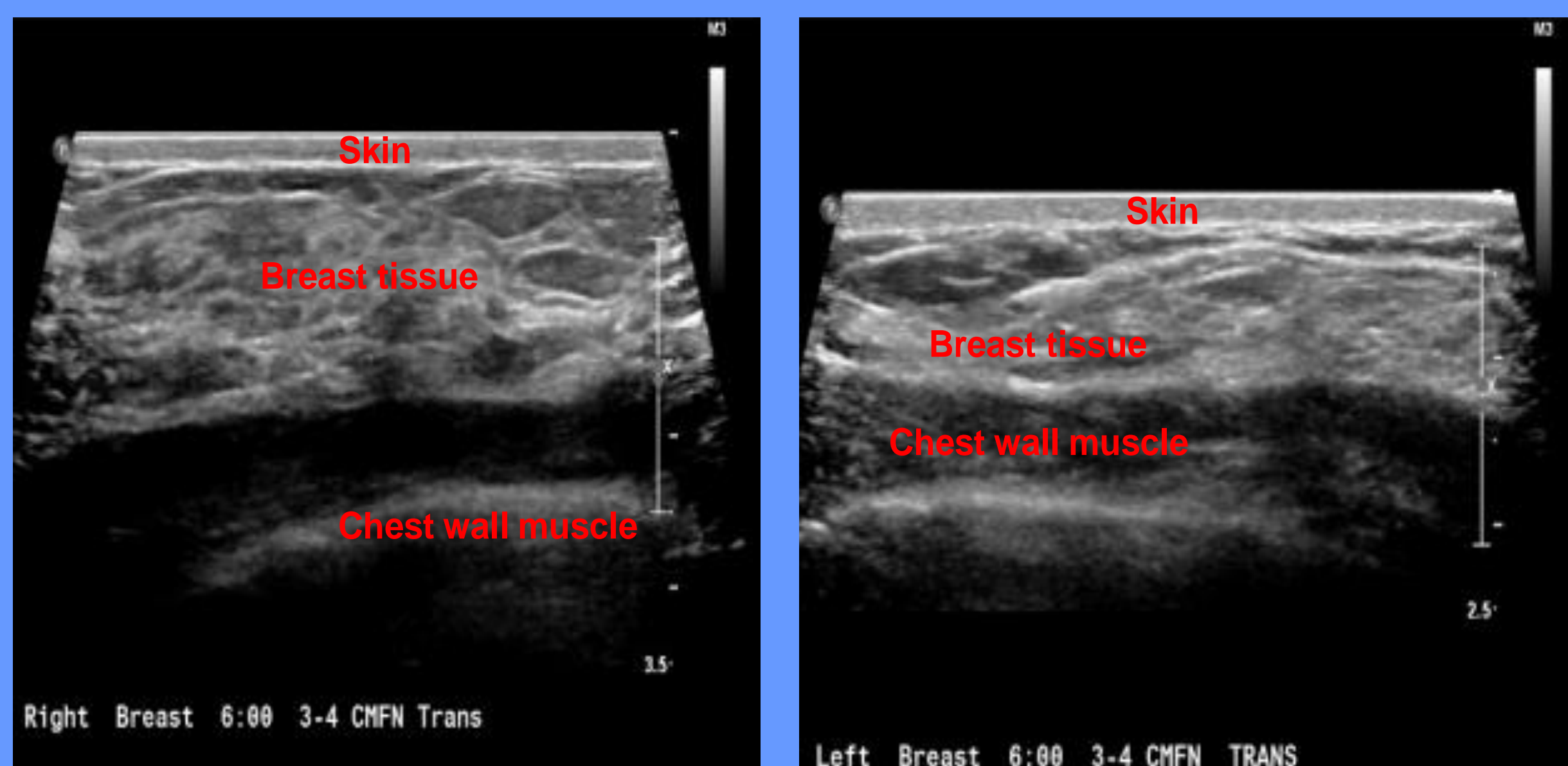
Case

- The patient is an 11 year-old female with a history of precocious puberty (menarche at age 9 9/12, thelarche approximately at age 8) who presented with left ipsilateral breast hypoplasia and overlying Becker's nevus
- Physical examination showed a moderately hyperpigmented patch without hypertrichosis or acne encompassing the lower half of the left breast.
- Right breast was 11 cm, glandular breast tissue while left breast was 8 cm and primarily underlying muscle. Normal female external genitalia was present (Tanner 4)
- Initial breast ultrasound (US) showed no left breast tissue, but intact chest wall musculature. Right breast tissue present and normal
- Patient was started on spironolactone 50 mg daily and increased to 100 mg daily 3 months later
- Repeat breast size measurements at that time were 13 cm on right and 9 cm on left. Unfortunately, she developed hypermenorrhea and irregular menses within 3 months of starting spironolactone
- Thus, dose was adjusted to control for menstrual side effects with the addition of hormonal treatments (estrogen, progesterone)
- Interval ultrasound 10 months since starting spironolactone showed development of left breast tissue, albeit minor
- Approximately one year later, right breast measured 16 cm while left breast measured 12 cm with spironolactone 75 mg daily
- With resolution of hypermenorrhea, dose re-adjusted to 100 mg daily

Figures



Figures (left to right): Baseline breast ultrasound (images 1,2) shows no left breast tissue compared to right. Breast ultrasound illustrating minor development of left breast tissue 10 months after starting spironolactone (images 3,4).



Figures (left to right). Breast ultrasound showing continued development of left breast tissue approximately 18 months following spironolactone, but remains asymmetrical in size (images 5,6)

Discussion

Recently, the relationship between androgen receptors within the BN and its association with ipsilateral breast hypoplasia has gained substantial attention given the role for medical management. The presence of androgen receptors was first reported in 1984 where a punch biopsy from a BN in the right pectoral region showed androgen receptor levels comparable to those in genital skin⁴. More recently, staining with androgen receptor antibodies showed specificity for dermal fibroblasts within the BN³. Thus, spironolactone, due to its anti-androgenic properties, can be tried in the management of BN associated ipsilateral breast hypoplasia. Our literature search yielded two similar reports of pubertal females (ages 11 and 17 years-old) who were treated with spironolactone and had interval breast tissue development^{2,5}. Further research is still needed regarding the optimal dose of spironolactone required to maximize breast tissue growth while limiting side effects (i.e. hypermenorrhea, irregular menses), the duration of treatment, and whether breast tissue development remains after spironolactone is discontinued.

References:

1. Formigon, M., et al. "Becker's Nevus and Ipsilateral Breast Hypoplasia--Androgen-Receptor Study in Two Patients." *Archives of Dermatology* 128.7 (1992): 992-3.
2. Hoon Jung, J., et al. "Becker's Nevus with Ipsilateral Breast Hypoplasia: Improvement with Spironolactone." *The Journal of Dermatology* 30.2 (2003): 154-6.
3. Grande Sarpa, H., et al. "Androgen Receptor Expression Patterns in Becker's Nevi: An Immunohistochemical Study." *Journal of the American Academy of Dermatology* 59.5 (2008): 834-8.
4. Person, J. R., and C. Longcope. "Becker's Nevus: An Androgen-Mediated Hyperplasia with Increased Androgen Receptors." *Journal of the American Academy of Dermatology* 10.2 Pt 1 (1984): 235-8.
5. Hernandez-Quiceno, S., et al. "Becker's Nevus Syndrome in a Pediatric Female Patient." *Case reports in pediatrics* 2016 (2016): 3856518.

We would like to thank the patient's family for their support and willingness to allow us to present their daughter's case. We also appreciate the help of Dr. Earn-Chun Christabel Lee and Dr. Arash R. Zandieh (Department of Radiology, Georgetown University Hospital, Washington, D.C.).

