Pincer nails are a common problem and often cause significant disability to patients. However, there is no way to simply and correctly express severity of it. We present a curvature index that can be used to easily assess the severity of the pincer nail.

**MEASUREMENT OF THE CURVATURE INDEX**

Practical measurement was performed on the patient’s photograph, taken by axial view of the nail plate. We used free image measurement software found on the Web. The apparent width of the nail tip was defined as A, and the traced length of the nail tip was defined as B. The curvature index was defined as B divided by A (B/A). With this curvature index, it is easy to describe the severity of the pincer nail and to compare the improvement before and after treatment. (Plast Reconstr Surg Glob Open 2013;1:e49; doi: 10.1097/GOX.0b013e3182a9647a; Published online 1 October 2013.)

**CASE REPORT**

A 51-year-old woman had suffered a pincer nail deformity of her right great toe for more than 10 years. The severity of the deformity progressively worsened. Preoperative curvature index was 2.23 (Fig. 2). Surgical treatment was performed. The deformed nail plate was removed, and the nail bed with a periosteum was raised as a flap. Protrusion of the distal phalanx was resected, and it was flattened. The excessive skin was trimmed from both sides of the nail, and the nail bed was sutured. Postoperative course was uneventful, and the curvature of the nail plate has been improved. After 6 months postoperatively, the curvature index was 1.12 (Fig. 3).

This article conforms to the Declaration of Helsinki.

**DISCUSSION**

Pincer nails are a common problem, and various treatments have been reported.1-4 However, as there is no simple assessment system of curvature severity, the indication of treatment is unclear and subjective, regardless of disease severity.

Kosaka and Kamiishi4 first reported the assessment system of the curvature severity, measuring
the width index and height index. This system expressed the curvature degree of the nail objectively for the first time. However, as both sides of the nail root are buried subcutaneously, the correct measurement of the width index is impossible. In addition, if the shape of the nail is curled, the height index cannot be used to correctly evaluate severity because both the width and the height are reduced.

By using the curvature index that we present here, it is possible to evaluate severity of curvature simply and correctly, even if the shape of the nail is curled (Fig. 4). Moreover, it is easy to describe or compare...
the progression of disease and improvement before and after treatment.

Ingrown nails are classified by the staging system developed by Heifetz; however, pincer nails do not have a stage classification to date. Instead of a stage classification, various names such as incurved nail, pincer nail, trumpet nail, or omega nail are used to express severity. These names do not have clear divisions and are often confused. Moreover, various treatments vaguely report that they are effective for pincer nails, without accurate evaluation. By using the curvature index reported here, it will be possible to compare the effectiveness among various treatments objectively to choose a treatment method based on the disease severity.

CONCLUSION

A curvature index for pincer nails has been presented. I hope that it will be used for assessment of disease severity and comparison among various treatments and for selection of treatment.

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REFERENCES
1. Effendy I, Ossowski B, Happle R. [Pincer nail. Conservative correction by attachment of a plastic brace]. Hautarzt 1993;44:800–802.
2. Brown RE, Zook EG, Williams J. Correction of pincer-nail deformity using dermal grafting. Plast Reconstr Surg. 2000;105:1658–1661.
3. Plusjé LG. Pincer nails: a new surgical treatment. Dermatol Surg. 2001;27:41–43.
4. Kosaka M, Kamiishi H. New strategy for the treatment and assessment of pincer nail. Plast Reconstr Surg. 2003;111:2014–2019.
5. Heifetz CJ. Ingrown toenail—a clinical study. Am J Surg. 1937;38:298–315.
6. Lee JI, Lee YB, Oh ST, et al. A clinical study of 35 cases of pincer nails. Ann Dermatol. 2011;23:417–423.
7. Baran R, Haneke E, Richert B. Pincer nails: definition and surgical treatment. Dermatol Surg. 2001;27:261–266.