

# Letters to the Editor

## Assessment of bony union following surgical stabilisation for lumbar spondylolysis: a comparative study between radiography and computed tomography

### *To the Editor:*

I read with interest the paper by Pai and Hodgson.<sup>1</sup> I noted with concern the statement “clinical results do not correlate with bony union, indicating that bony union is not required to achieve good results.” One could then equally conclude that good results occurred regardless of the surgical intervention. Many of these cases may well have settled without surgery. The authors have fallen into a logical error so common in medical treatment: *post hoc ergo propter hoc* (after this therefore because of this).

If one sets out to perform a bony union or arthrodesis of a spondylolysis (not a stabilisation) and this has not been achieved, then the operation has failed. It reminds me of comments made about the

Charnley compression arthrodesis of the hip that became popular in the mid to late 60s. Many authors suggested that a “firm tight” fibrous union was just as satisfactory as a bony arthrodesis. Despite this, the operation rapidly fell into disfavour.

The authors presented a nonunion rate of 50% and argued that despite this the procedure was a good one. It would seem to me to be intellectual nonsense. Would you agree to such an operation after the appropriate informed consent?

**J Rush**

St Vincent's Public Hospital  
Victoria Parade, Fitzroy  
Victoria, Australia

### REFERENCES

1. Pai VS, Hodgson B. Assessment of bony union following surgical stabilisation for lumbar spondylolysis: a comparative study between radiography and computed tomography. *J Orthop Surg (Hong Kong)* 2006;14:17–20.

### *Authors' reply*

We thank Mr Rush for his comments. The purpose of our article was to report the disparity in bone healing observed between radiographs and computed tomographic (CT) scans, although clinical and radiographic findings have been used widely in the literature.

In a period of 6 years, we observed good to excellent results in 90% using radiographic and clinical assessment. We started CT assessment in 13 of our 20 patients treated consecutively to determine bone healing. Although 90% showed bone healing clinically,

only 50% had this confirmed by CT. This prompted the senior surgeon to change his surgical technique to rod and pedicle fixation and assess all cases with CT at one year. It is too early to report the results of this study.

We intended to simply report the disparity between radiological and CT healing rather than recommend any procedures.

**VS Pai**

Wellington Hospital, Wellington, New Zealand

**B Hodgson**

Dunedin Hospital, New Zealand

# Posterior lumbar interbody fusion versus intertransverse fusion in the treatment of lumbar spondylolisthesis

## To the Editor:

I would like to comment on the article by Inamdar et al.<sup>1</sup> The authors claimed that “this is the first prospective study to compare the 2 methods.” However, there have been manuscripts comparing these 2 methods in the literature.<sup>2,3</sup> The authors concluded that “intertransverse fusion (ITF) has less morbidity and complication than posterior lumbar interbody fusion (PLIF). ITF is recommended because of the simplicity of the procedure, lower complication rate, and good clinical and radiological results.”<sup>1</sup> However, they randomly divided the 2 groups regardless of slip degree and slip angle. Posterolateral fusion is a good and valuable

option for low-grade spondylolisthesis but not for high grade.<sup>2,3</sup> Dehoux et al.<sup>2</sup> have advocated the use of posterior interbody fusion for high-grade spondylolisthesis requiring reduction or when the disc space is still high.<sup>2</sup> Correction of saggital balance and maintenance of disc height is very important for spondylolisthetic patients. Achievement of this fine tuning can easily be done with PLIF.<sup>4,5</sup>

**O Cebesoy**

Department of Orthopedics and Traumatology  
Gaziantep University Faculty of Medicine  
Gaziantep, Turkey

## REFERENCES

1. Inamdar DN, Alagappan M, Shyam L, Devadoss S, Devadoss A. Posterior lumbar interbody fusion versus intertransverse fusion in the treatment of lumbar spondylolisthesis. *J Orthop Surg (Hong Kong)* 2006;14:21–6.
2. Dehoux E, Fourati E, Madi K, Reddy B, Segal P. Posterolateral versus interbody fusion in isthmic spondylolisthesis: functional results in 52 cases with a minimum follow-up of 6 years. *Acta Orthop Belg* 2004;70:578–82.
3. Madan S, Boeree NR. Outcome of posterior lumbar interbody fusion versus posterolateral fusion for spondylolytic spondylolisthesis. *Spine* 2002;27:1536–42.
4. Sears W. Posterior lumbar interbody fusion for degenerative spondylolisthesis: restoration of saggital balance using insert-and-rotate interbody spacers. *Spine J* 2005;5:170–9.
5. Sears W. Posterior lumbar interbody fusion for lytic spondylolisthesis: restoration of saggital balance using insert-and-rotate interbody spacers. *Spine J* 2005;5:161–9.

## Authors' reply

There have indeed been 2 previous studies comparing the types of fusion applied to a particular type of listhesis but not spondylolisthesis in general. There might have been an oversight because of the extensive literature. The purpose of our study was to compare the 2 methods of fusion irrespective of the grade of

listhesis.

**DN Inamdar**

Department of Orthopaedic Surgery  
Institute of Orthopaedic Research and Accident  
Surgery  
Madurai, India

# Residual nonunion following vascularised fibular graft treatment for congenital pseudarthrosis of the tibia: a report of two cases

## To the Editor:

I read with interest the article by Sulaiman et al.<sup>1</sup>

Although union was achieved in both cases, the follow-up was very short at 4 months. It is well known that

refracture is common despite the initial solid clinical and radiographic union.<sup>2,3</sup> Perhaps the authors could give us a longer-term follow-up on this complex condition.

**S Ibrahim**  
Department of Orthopaedics and Traumatology  
Hospital Universiti Kebangsaan Malaysia  
Kuala Lumpur, Malaysia

## REFERENCES

1. Sulaiman AR, Nordin S, Faisham WI, Zulmi W, Halim AS. Residual nonunion following vascularised fibular graft treatment for congenital pseudarthrosis of the tibia: a report of two cases. *J Orthop Surg (Hong Kong)* 2006;14:64–6.
2. Inan M, El Rassi G, Riddle EC, Kumar SJ. Residual deformities following successful initial bone union in congenital pseudoarthrosis of the tibia. *J Pediatr Orthop* 2006;26:393–9.
3. Dobbs MB, Rich MM, Gordon JE, Szymanski DA, Schoenecker PL. Use of an intramedullary rod for the treatment of congenital pseudarthrosis of the tibia. Surgical technique. *J Bone Joint Surg Am* 2005;87(Suppl 1):S33–40.

### *Authors' reply*

We agree with the concern about refracture in the long term despite the initial solid clinical and radiographic union. Cases 1 and 2 were operated in August 2000 and July 2003, respectively, and solid union was achieved at 4 months; no refracture was observed despite no external protection at 5 and 3 years, respectively. Use of an intramedullary nail minimises the risk of refracture<sup>1,2</sup> and we do not plan to remove

the nails in both cases. The nail may have to be changed to a longer one to ensure prolonged and adequate internal splintage.<sup>1</sup>

**AR Sulaiman**  
School of Medical Sciences  
Universiti Sains Malaysia  
Kota Bharu, Kelantan,  
Malaysia

## REFERENCES

1. Joseph B, Mathew G. Management of congenital pseudarthrosis of the tibia by excision of the pseudarthrosis, onlay grafting, and intramedullary nailing. *J Pediatr Orthop B* 2000;9:16–23.
2. Anderson DJ, Schoenecker PL, Sheridan JJ, Rich MM. Use of an intramedullary rod for the treatment of congenital pseudarthrosis of the tibia. *J Bone Joint Surg Am* 1992;74:161–8.

# Radiographic assessment of congenital talipes equinovarus: strapping versus forced dorsiflexion

### *To the Editor:*

I read with interest the article by Yeung et al.<sup>1</sup> Although clubfoot is a very common problem, researchers have still not reached a consensus on a reproducible description or assessment of the foot. The authors classified their patients' conditions as severe clubfoot deformity according to the Dimeglio classification.<sup>2</sup> Two methods were used to hold the feet for radiograph taking: strapping the ankle with tapes versus dorsiflexion with a wooden block. The authors were unable to measure the talocalcaneal angles on the anteroposterior radiographs using forced dorsiflexion. Figures 4b and 5b showing the feet being held flat

against the X-ray plate are less likely to give good-quality radiographs. It is recommended that the tube be tilted cranially 30 degrees in order to see the rudimentary eccentric ossifying nuclei in cartilage enlarging these small feet.<sup>3–5</sup> The method recommended by Beatson and Pearsons<sup>5</sup> for the measurement of talocalcaneal index was devised to outline the nuclear shadows of both talus and calcaneus. For anteroposterior view, the feet are held flat soles against the plate below, knees bent to 45° and X-ray tube tilted cranially 30°. This shows both the nuclei crossing each other making the anterior talocalcaneal angle. For lateral view, the feet are

supported from below, holding the soles against a specially designed apparatus which allows the feet to be radiographed in lateral view. This was the lateral talocalcaneal measurement of the talocalcaneal index. The sum of the 2 angles is called talocalcaneal index. The cranial tilt of the tube eliminates the possible overlapping of shadows from the other bones.

Holding the feet in 30 degrees of planter flexion during this procedure has been advocated.<sup>4</sup> This may explain why the authors were unable to measure the angles in anteroposterior views between the talus and calcaneus. Drawing lines along the medial edge of the talus and the lateral border of the calcaneus during measurements has been recommended.<sup>4</sup>

The angles obtained by the authors were rather borderline, with the talocalcaneal angle being 19.4° in the anteroposterior and 22° in the lateral radiographs. The difference between the groups was small. Even with strapping, it was quite difficult to keep the feet still, so

there might be room for strong sedation in these children.

Use of wooden block dorsiflexion is very unlikely to correct the severe multiplanar deformity, nor to bring it into one plane as is desirable when obtaining lateral X-rays.

The lower end of the fibula lies markedly posterior in the lateral views and is likely to be a source of error in the measurement of angles and may even show the head of the talus flattened.<sup>6</sup> Inclusion of a few radiographs in the article would have been helpful.

A uniform method that can give reproducible results is needed so that the grades of deformity and results of treatment can be measured with minimal inter- and intra-observer differences.

**FN Hussain**

Department of Orthopedic Surgery  
Post Graduate Medical Institute  
Lahore General Hospital, Pakistan

## REFERENCES

1. Yeung EH, Li YH, Ng ON, Chow W. Radiographic assessment of congenital talipes equinovarus: strapping versus forced dorsiflexion. *J Orthop Surg (Hong Kong)* 2005;13:253–8.
2. Dimeglio A, Bensahel H, Souchet P, Mazeau P, Bonnet F. Classification of clubfoot. *J Pediatr Orthop B* 1995;4:129–36.
3. Turco VJ. Clubfoot. Edinburgh: Churchill Livingstone; 1982.
4. Carroll N. Clubfoot. In: Morrissy RT, editor. *Lovell and Winter's pediatric orthopaedics*, 3rd ed. Philadelphia: JB Lippincott; 1990.
5. Beatson TR, Pearson JR: A method of assessing correction in club feet. *J Bone Joint Surg Br* 1966;48:40–50.
6. Cummings RJ, Davidson RS, Armstrong PF, Lehman WB. Congenital clubfoot. *J Bone Joint Surg Am* 2002;84:290–308.