

FIG. 23. Lateral roentgenogram showing manual correction obtainable.

are applicable to lesions derived from spinal trauma.

5. Laminectomy may impair stability to such a degree that it should be reserved for patients in whom indications can be precisely defined.

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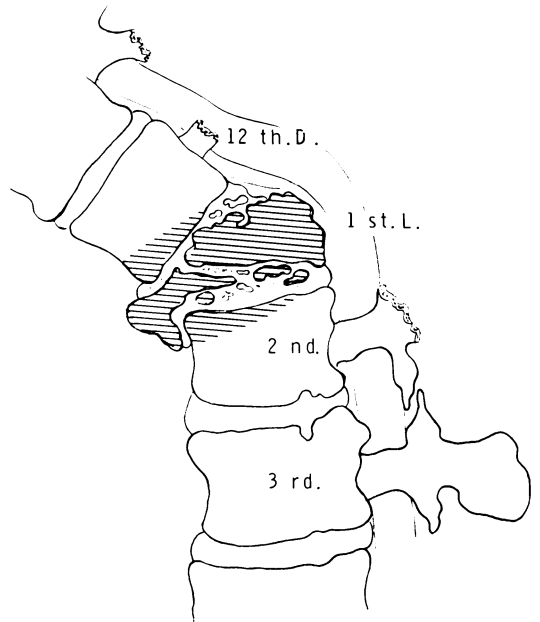


FIG. 24. Diagram to indicate problems encountered in efforts at posterior fixation.

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DISCUSSION

DR. J. HAMILTON ALLAN (Charlottesville): I would like to comment on two aspects of this interesting paper. In the area between D-11 and

L-2, Dr. Kelly reminds us that the fracture dislocation of the spine may injure the spinal cord but not necessarily injure some of the nerve routes emerging from this level and passing down to give function to the lower extremities. So, it is vital to

stabilize the spine in this area to prevent movement and traumatizing the uninjured nerve routes or those uninjured by the original trauma.

This concept has been emphasized by Mr. Holsworth, Surgeon-in-Chief of the Lodgemore Spinal Injury Center, near Sheffield, England, and his technic has been illustrated here in six patients.

He emphasizes that this technic prevents further injury to the nerve route and is also extremely helpful in allowing the patient to be rolled safely every couple hours to prevent pressure ulcerations on the skin areas, which are anesthetic in these paraplegics. I can affirm that this particular technic is of great assistance in their speedy rehabilitation.

Secondly, regarding the concept of the spine as a two-column structure (the first one being the vertebral body, and the second one the neural arches): I think a great many of these structure dislocations can be stabilized by a posterior fusion; but a great number too have to be treated by stabilizing both the anterior and posterior column, as illustrated in some of these cases.

The anterior approach was originally advocated by Mr. Hodgson, of the University of Hong Kong, in the treatment of spinal tuberculosis, so rampant in that area. It is a very, very meticulous and exacting technic, and in my limited experience with it I feel these patients have received excellent surgical care.

A few years ago a patient of mine (a theological student with an unstable spine due to dislocation) had a posterior spinal fusion done, and he got along well for about three years. In Hong Kong later (as a missionary) he took part in a track meet and suddenly collapsed with acute pain in his back. Fortunately he came under the care of Mr. Hodgson, who did his anterior body fusion, and with the stability provided by the anterior column, the posterior fusion mass again healed.

So I think this concept of the two-column structure is a rather practical one. Thank you, Dr. Kelly and Dr. Whitesides, for this very excellent paper.

DR. LENOX D. BAKER (Durham): In Dr. Kelly's efforts to solve one of the most difficult problems with which we deal, he took the best of everything we have to offer a patient. He used his and others' experience in attempting to get stabilization through the various posterior procedures which we have learned have not been satisfactory in dealing with degeneration of the disc as they do not give complete fixation. He has taken what has been learned from the use of the anterior approach in the degenerative disc problem and applied it to fracture-dislocation of the spine to aid patients and make it possible for them to live with some degree of relief and satisfaction.

The old Ambrose Paré expression which I shall not quote here, is not necessarily true in these patients. God simply can't handle them alone except through His children whom He has trained to carry on His work. Dr. Kelly has been in the position of the English gardener who, while tending the grass of an estate, was approached by a visiting clergyman who talked about the wonders of God and His works such as producing the beautiful lawn. The gardener replied, "Yes, that's all true, but you should have seen this garden before I started helping God."

And that is what Bob is trying to do.

DR. THOMAS E. WHITESIDES, JR. (Closing): (Slide) In order to clarify one of the points we had hoped to make, I would like to show this slide of an ankle fracture. It is rather severe but distantly connected to the spine. However, this injury is parallel to those we usually see in the spine in that it is one in which there is only one plane of soft tissue and bony disruption. Let me emphasize the soft tissue injury—the spine must have ligamentous as well as bony stability to function as a supporter of the trunk and head, and as a protector of delicate neural structures.

With one simple motion (Slide) this rather severe ankle fracture-dislocation was reduced. Again, there is parallelism in regard to the spine in that many fragments about the usual spinal injury will fall back into place in the same manner and allow for soft tissue and, later bony healing if held in this position. If the tibia and talus were hollow tubes through which neural structures passed, one could not anticipate relaxing the neural structures of extrinsic pressure unless such a reduction were carried out.

In regard to Dr. Allan's comments, one of our cases shown here had, as did his, a posterior fusion which disrupted due to persistent anterior instability and, thus, distracting forces. Following anterior stabilization, the posterior fusion reunited. This was an "H-graft" that had fused at each end but disrupted in its center.

In regard to Dr. Baker's comment concerning the fact that we had used everything, including laminectomy, in the treatment of these cases, we would hasten to state that we did not carry out the initial treatment and laminectomy in those cases in which laminectomy was used. We fervently believe that laminectomy is sometimes used indiscriminately in the often frustrating desire to do "everything possible" in lumbodorsal fracture-dislocations, and that its use should be limited to those few cases in which a well-defined indication for its use exists. If it is used, the person carrying out the laminectomy procedure should be well aware of the fact that it may, by worsening spinal stability, allow further neurologic damage to occur.