SPECT/CT Fusion Imaging by Radionuclide Cisternography in Intracranial Hypotension

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A 46-year-old man was admitted to our hospital because of orthostatic headache. Brain MRI with gadolinium showed diffuse thickening and enhancement of the pachymeninges (Picture 1). A lumbar puncture demonstrated an opening pressure of 0 mmH₂O. Whole body planar images obtained at 20 min after ¹¹¹In-DPTA intrathecal injection showed obvious CSF leaks in the upper thoracic vertebrae (Picture 2A). SPECT/CT study of the region of interest showed extradural egress of the tracer introduced in the bilateral para-spinal space on Th3 and the left side para-spinal space on Th5 (Picture 2B). This patient was diagnosed with spontaneous intracranial hypotension. Bed-rest and hydration resulted in good recovery. SPECT/CT fusion imaging is useful for determining the precise level of spinal space causing CSF leakage (1). We consider that recognition of the exact
region of leakage is important to determine the cause of CSF leakage.

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Reference