

Report for the APSS Depuy Synthes Spine Clinical Fellowship 2012

Fellow: **Dr Pankaj Kandwal**, MD

Senior Research Officer (Spine),

All India Institute of Medical Sciences
(AIIMS),

New Delhi, 110029 India.

Guide: **Dr Kuniyoshi Abumi**, MD

Professor,

Department of Spinal Reconstruction,

Hokkaido University Graduate School of
Medicine,

N15 W7, Kita-Ku, Sapporo, 060-8638
Japan.

Duration: **11 Feb - 02 Mar 2013**

Centre's visited:

**Hokkaido University Graduate
School of Medicine**, Sapporo.

& affiliated hospitals

- (1) Spinal Cord Injury Centre, Hokkaido
Chuo Rosai Hospital, Bibai.
- (2) Hokkaido Orthopaedic Memorial
Hospital, Sapporo.

(3) Eniwa Hospital, Eniwa.

(4) Hakodate Central General Hospital,
Hakodate.

(5) Municipal General Hospital, Sapporo.

(6) KKR Sapporo Medical Center,
Sapporo.

The Asia Pacific Orthopaedic
Association (APOA) - Depuy Spine Clinical
Fellowship 2012 took place from 11th
February to 02 March 2013. Landed in snow
laden Sapporo on 11th February and my
fellowship began on 12th February.

Prof Abumi accompanied us to the
University hospital on 12th Feb 9.00 am.
Posterior instrumentation using double-rod
rotation technique for AIS was the first case
on Tuesday, 12th Feb. Double rod rotation
technique is devised by Prof M. Ito and we
experienced this technique on the first day
with excellent correction of deformity as
evidenced by post-op X-rays. This was
followed by midline laminoplasty for
cervical myelopathy done by Prof Abumi.

The day ended with ward rounds where we
discussed the planning of the pre-op cases

and management of post-operative patients.



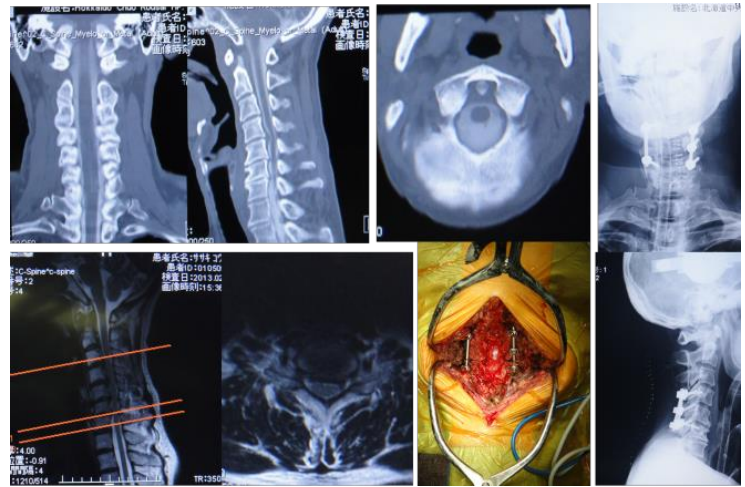
Hokkaido University Graduate School of Medicine

Wednesday (13 Feb 2013) was a date with Dr Kota Suda at Spinal Cord Injury Centre, Bibai. Bibai is a neighboring city, approximately 60 km north-east of Sapporo, which is well connected by intercity trains. Spinal Cord Injury Centre at Bibai is the only tertiary care centre for spinal trauma in the island of Hokkaido.



Spinal Cord Injury Centre, Hokkaido Chuo Rosai Hospital, Bibai

Four cases were lined up for the day, also got an opportunity to scrub up in two of the them. Session in the Operating Room was followed by conference where post-op X-rays of the operated cases were critically analyzed and the cases posted for the next operation theatre were discussed at length. The day concluded with traditional Japanese dining. At the end of the day, I was thoroughly impressed by the young & enthusiastic team of doctors at Spinal cord Injury Centre and the dynamic personality of Dr Suda.



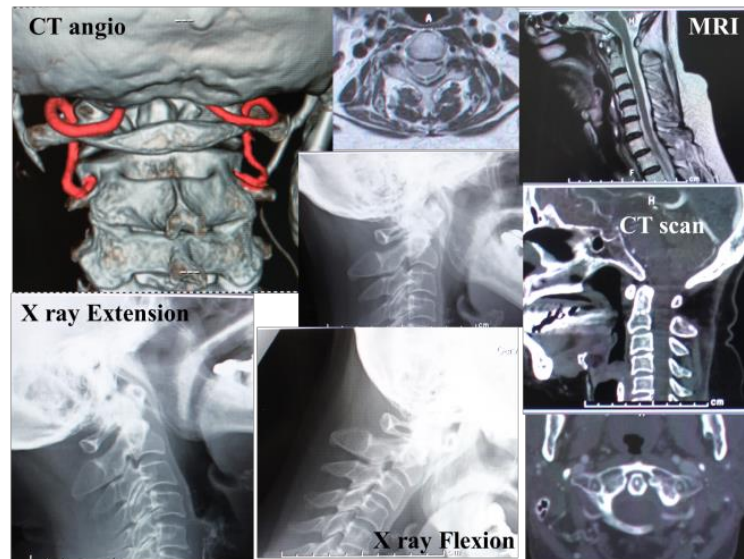
Case 1. OPLL with cervical myelopathy: Laminoplasty and pedicle screw/lateral mass fixation done

Thursday (14 Feb 2013) began at 7.30 in the morning with research updates at the University Hospital. It was followed by Operation theatre where two challenging revisions were lined up. First case was a rheumatoid spine; operated multiple times;

fused from occiput to L4, now presenting with collapse L5 and junctional kyphosis. Extension of instrumentation to Ilium with interbody fusion at L4-5 and L5-S1 was performed. This was followed by another difficult case, Post-laminectomy cervical kyphosis and persisting myelopathy. I was absolutely thrilled to experience the surgery as an assistant with Prof Abumi. Only an expert like him could operate on such a difficult case where excising the post-laminectomy membrane over the cervical cord was complicated with fixed cervical kyphosis. I also got hands-on experience in cervical pedicle screw insertion during the surgery. Prof Abumi took extra efforts to explain his technique of Cervical Pedicle Screw insertion and also shared the operative video with us. Fare-well dinner for Prof Abumi was organized by Staff nurses of University hospital and we were part of the celebration. This also gave us a chance to interact with the other team members dedicated to spinal surgery.

On Friday (15 Feb 2013), we travelled to Hakodate Central General Hospital, Hakodate, another city situated in Southern Hokkaido with Prof Abumi. Occiput- C2 fixation was performed for Rheumatoid Arthritis with C1-C2 instability. The road trip to Hakodate was one of the most

memorable parts of my fellowship. This journey also gave me an opportunity to evidence excellent driving skills of the master surgeon.



Case 2. C1- C2 instability: Occiput- C2 fixation done

Prof Abumi drove us to Municipal General Hospital, Sapporo on Monday (18 Feb 2013). Occiput –C2 fixation was performed for C1-C2 instability by Prof and I again got a chance to scrub up with him. Tuesday (19 Feb 2013) was a long day at University Hospital where scoliosis correction (T2- L4 fixation) was performed by Prof Ito and team. Surgery was interspersed with in depth discussions with Prof Ito, his philosophy and the reduction/correction technique in AIS. Next day; 20 Feb 2013, we again travelled to Bibai where Dr Suda and team greeted us with three cases. It was

very interesting to learn about S (Suda) point and hybrid construct (Cervical Pedicle screw with Lateral mass fixation) commonly used by Dr Suda. We again indulged in some delicious Japanese cuisine and revelry with the team. Kyphosis correction and pedicle screw fixation was performed By Prof Abumi for OPLL with cervical myelopathy on Thursday (21 Feb 2013). Later in the day we saw midline decompression for Lumbar canal stenosis.



Lumbar Canal Stenosis, TLIF L4-5 performed.

On Friday (22 Feb 2013) three cases of Lumbar decompression, instrumentation and fusion were lined up at Hokkaido Orthopaedic Memorial Hospital, Sapporo led by Dr I Oda. They later invited us for a dinner where we interacted with the team of Doctors from Memorial hospital and experienced the true Japanese hospitality.



Dinner with (a) Memorial Hospital doctors (b) Spinal Cord Injury Centre, Bibai, team (c) University Hospital Spine team.

A gala fare-well dinner to celebrate the achievements of Prof K. Abumi was organized on Saturday which was attended by spine surgeons across Sapporo and Hokkaido. Dinner was an excellent opportunity to meet some stalwarts from Japan like Prof Kaneda.



(a) With Prof K. Abumi (b) in action with Dr Suda (c) Fare-well dinner, Prof Kaneda (second from left) Prof Abumi (fourth from left) (d) with Prof M. Ito.

Last week of our stay in Sapporo saw us visiting Dr S. Satoh and team at Eniwa Hospital on Monday and Friday and Spinal Cord Injury Centre, Bibai on Wednesday. Challenges of excision of Dumbbell tumor both extra (involving left C2 nerve root) and intradural (C4-C5 region) were in-store for us before we bid adieu to Sapporo.

My three weeks of stay in Sapporo was extremely satisfying. I would like to express my heartfelt gratitude to Prof Abumi for having organized such an academically enriched programme. Here I would also mention other consultants from the affiliated hospitals who took extra efforts to teach me and share their skills, technique and experience.

Finally I would thank the APOA Spine section especially the Chairman; Prof J Y Chung, Vice Chairman; Prof A Jayaswal, Secretary; Prof Mun Keong Kwan, for selecting me for this fellowship and providing with the golden opportunity. A final word of appreciation for Ms Marianne and Kong for co-ordinating the fellowship programme.



(a) Trip to Shikotsu lake (b) Orthodox Russian church, Hakodate with Prof Abumi



64th Sapporo snow festival

**Log book of cases assisted/observed during
the fellowship (attached below)**

Date	Day	Age	Sex	Diagnosis	Procedure	Surgeon	My Role	Hospital
12-Feb	Tue	12	F	AIS	Posterior instrumentation(T5-L2) Double rod rotation technique	Prof M. Ito	Observer	Hokkaido University Hospital, Sapporo
		66	M	Traumatic cervical Disc disruption C2-C3 with myelopathy	Midline splitting Laminoplasty	Prof K. Abumi	Observer	Hokkaido University Hospita, Sapporo
13-Feb	Wed	75	M	Degenerative Spondylolisthesis L4-L5	Open L4-5 TLIF	Dr K. Suda	Observer	Spinal Cord Injury Center, Bibai
		74	M	Central Cord Syndrome C4-C5	Posterior Instrumentation (Cervical Pedicle screw & lat mass)	Dr K. Suda	Assistant	Spinal Cord Injury Center, Bibai
		54	M	L1 Collapse	Posterior Instrumentation(T11-L2)	Dr K. Suda	Observer	Spinal Cord Injury Center, Bibai
		50	M	Fracture L3	Posterior Instrumentation(L2-L3)	Dr K. Suda	Assistant	Spinal Cord Injury Center, Bibai
14-Feb	Thur	62	M	Ruematoid Arthritis with implant in situ C1-L4 with adjacent level # L5	Extension of PI, TLIF L4-L5, PLIF L5-S1 with iliac screw fixation	Prof K. Abumi	Observer	Hokkaido University Hospital, Sapporo
		70	M	FUC of laminectomy C2-C7 with persistant myelopathy & kyphosis	Re decompression & correcction of kyphosis using Pedicle screw fixation	Prof K. Abumi	Assistant	Hokkaido University Hospital, Sapporo
15-Feb	Fri	65	F	C1 C2 instability	Occiput- C2 fixation	Prof K. Abumi	Observer	Hakodate Central General Hospital, Hakodate
18-Feb	Mon	70	F	C1 C2 instability	Occiput- C2 fixation	Prof K. Abumi	Assistant	Municipal General Hospital, Sapporo
19-Feb	Tue	23	F	AIS	Posterior Instrumentation(T2-L4)	Prof M.Ito	Observer	Hokkaido University Hospital, Sapporo
20-Feb	Wed	72	F	Flexion Myelopathy	Posterior Instrumentation C3-C6 (Pedicle screw and lateral mass screw)	Dr K. Suda	Observer	Spinal Cord Injury Center, Bibai
		80	F	LCS L4-5	Open L4-5 TLIF	Dr K. Suda	Observer	Spinal Cord Injury Center, Bibai
		42	M	OPLL with cervical myelopathy	Posterior Instrumentation (Pedicle screw & lateral mass)	Dr K. Suda	Assistant	Spinal Cord Injury Center, Bibai
21-Feb	Thur	52	F	OPLL with Cervical Myelopathy	Pedicle screw Fixation C2-C5, Kyphosis correction	Prof K. Abumi	Observer	KKR Sapporo Medical Center, Sapporo
		60	M	LCS L4-5	Midline splitting decompression	Prof M.Ito	Observer	Hokkaido University Hospital, Sapporo
22-Feb	Fri	67	M	LCS L3-L4 and L4-L5 Listhesis	Medial Facetectomy L3-4 and PLIF L4-5	Dr I.Oda	Observer	Hokkaido orthopaedic Memorial Hospital, Sapporo
		65	M	L4- L5 listhesis	PLIF L4-L5	Prof M. Fujiya	Observer	Hokkaido orthopaedic Memorial Hospital, Sapporo
		72	M	LCS L4-5	Decompression	Dr I.Oda	Observer	Hokkaido orthopaedic Memorial Hospital, Sapporo
25-Feb	Mon	64	F	LCS L4-L5	PLIF L4-L5	Dr S. Satoh	Observer	Eniwa Hospital, Eniwa
		65	M	LCS L4-L5	PLIF L4-L5	Dr S. Satoh	Observer	Eniwa Hospital, Eniwa
26-Feb	Tue	70	F	Degenerative Spondylolisthesis L4-L5 with instability	TLIF L4-L5	Dr Nagahama	Observer	Hokkaido University Hospital, Sapporo
		26	M	Neurofibromatosis with Dumbell tumor C4-C5	Tumor excision & stabilization with Cervical pedicle screws	Prof K. Abumi	Observer	Hokkaido University Hospital, Sapporo
27-Feb	Wed	75	F	Synovial Cyst Rt L4-5 facet joint with instability	Excision of cyst & L4-5 TLIF	Dr K. Suda	Observer	Spinal Cord Injury Center, Bibai
		62	M	Cervical Myelopathy	Laminoplasty with Pedicle screw fixtion	Dr K. Suda	Observer	Spinal Cord Injury Center, Bibai
		54	F	C4-5 Left sided Foraminal Stenosis	Rt side Pedicle screw fixation C4- C5 with Foraminotomy	Dr K. Suda	Assistant	Spinal Cord Injury Center, Bibai
		69	M	Compressin fracture C7	Pedicle screw Fixation C6-C7	Dr K. Suda	Observer	Spinal Cord Injury Center, Bibai
28-Feb	Thur	47	F	L5 Spondylolysis, L5-S1 listhesis	PLIF	Dr Nagahama	Observer	Hokkaido University Hospital, Sapporo
		43	F	Dumbell tumor Left C2 nerve root	Tumor excision & stabilization with Cervical pedicle screws	Dr M.Takahata	Observer	Hokkaido University Hospital, Sapporo
1-Mar	Fri	53	F	LCS (hard disc) L4-5	TLIF L4-L5	Dr S. Satoh	Observer	Eniwa Hospital, Eniwa
		74	M	Disc prolapse L3-L4 and L4-5 with lumbar canal stenosis	L3-4 and L4-5 Medial facetectomy	Dr S. Satoh	Assistant	Eniwa Hospital, Eniwa