Hématorachis: prévention et prise en charge
ARRES 2015-2017

Hervé Bouaziz, médecin conseil

CABINET
BRANCHET
GROUPE VERSPIEREN

Cas n° 1

- ✓ Madame Emma Torachis, âgée de 80 ans est programmée pour mise en place d'une PTG. Dans ses ATCD : DID traité.
- ✓ Anesthésie prévue en CPA : Rachianesthésie + Analgésie péridurale
- ✓ J0 : durée de l'intervention 01h45 dont 01h00 de chirurgie. RAS
- ✓ J+1 dans la journée et la soirée : RAS
- ✓ Dans la nuit de J+1 à J+2 : apparition de douleurs lombaires intenses (8/10) avec irradiations vers les plis inguinaux. La constatation en SSPI d'un bloc moteur asymétrique est interprétée comme un début de récupération motrice. La PCEA est activée, et devant la persistance du bloc moteur, les paramètres sont modifiés à plusieurs reprises et le cathéter est retiré de quelques cm.
- ✓ à J+3 tôt le matin : bloc moteur bilatéral complet et perte d'urines. Les IDE ne jugent pas utile de prévenir un médecin…
- ✓ Le MAR passe sa visite du matin, et évoque immédiatement le diagnostic d'HPM. Il arrête la PCEA et demande un scanner en urgence qui est interprété comme étant normal par le radiologue. Le diagnostic porté est alors celui d'un CLE.
- ✓ L'IRM, demandée 2 jours plus tard, mettra en évidence un HPM en L1 et L2-L3. La patiente est opérée dans la foulée.
- ✓ Au total : la patiente déambule en fauteuil et souffre de douleurs de déafférentation

Ce qui est reproché aux médecins :

- Retard de diagnostic+++
- En fait l'HPM étant visible sur le scanner, le radiologue sera inquiété

Conclusion : Aléa-Chirurgien-Anesthésiste-Réanimateur-Radiologue-Clinique (IDE) peut-être…

Cas n° 2

- ✓ Monsieur Tom O'densitometry est âgé de 60 ans et souffre de cruralgie hyperalgique. Il est programmé pour bénéficier d'une cure chirurgicale de Hernie Discale L3-L4 droite. Dans ses ATCD : Obésité-Flutter-HTA. Traitement : AVK. Relais AVK-HBPM organisé en CPA.
- ✓ J0 : intervention RAS. Lovenox 40 mg prescrit à H+4 en postopératoire
- ✓ J+2 très tôt le matin : Douleurs sciatique bilatérales + paresthésies + parésie + rétention urinaire.
- ✓ J+2 : Vu par le MAR à midi. Le diagnostic de syndrome de la queue de cheval étant posé, il prévient le chirurgien par téléphone en laissant un message sur son portable. Il demande que le patient reste à jeun. Le chirurgien prend connaissance du message en milieu d'après-midi. Le patient est opéré le soir : HED au niveau du site chirurgical.
- ✓ Récupération partielle du déficit avec des troubles sensitivomoteurs persistants, un auto-sondage urinaire quotidien, se lève 6 fois la nuit pour uriner, l'utilisation de cannes pour déambuler, l'absence d'érection.
- ✓ Perte de chance évaluée à 50%. Répartition des responsabilités : 1/3 Etablissement (IDE) et 2/3 répartis pour moitié entre le chirurgien et l'anesthésiste

Ce qui est reproché au couple MAR-CHIR :
- reprise trop précoce des anticoagulants
- prise en charge trop tardive de la complication

British Journal of Anaesthesia 101 (3): 400–4 (2008)
doi:10.1093/bja/aen170 Advance Access publication June 13, 2008

BJA

REGIONAL ANAESTHESIA

Detection and management of epidural haematomas related to anaesthesia in the UK: a national survey of current practice†

J. Meikle[1], S. Bird[1], J. J. Nightingale[2]* and N. White[3]

254/301 questionnaires envoyés = 84%

Table 1 Acute pain service protocols

	2001		2007	
	Yes	No	Yes	No
Do you have a written protocol for running postoperative epidural infusions?	236	12	239	3
Does this include regular assessment of sensory level and motor function?	197	39	222	20
Are observations made at least 4 hourly?	177	20	189	27
Do observations continue after the epidural is removed?	73	124	107	115
Do they continue for more than 12 h?	16	57	30	77

Table 2 Facilities for investigating and treating haematoma

	2001		2007	
	Yes	No	Yes	No
Do you have access to emergency MRI scanning 24 h a day in your hospital?	107	141	136	100
If not do you have 24 h access in another hospital?	108	33	81	19
Is this in a spinal or neurosurgery unit?	73	35	67	14
Do you have an agreement with your radiologists to provide urgent MRI scans for suspected epidural haematomas 24 h a day?	88	160	126	75
Do you have an investigation and treatment protocol agreed with your local spinal or neurosurgery unit?	14	234	47	187

Epidural Hematoma Following Epidural Analgesia in a Patient Receiving Unfractionated Heparin for Thromboprophylaxis

79 ans

Harminder Sandhu, M.D., Patricia Morley-Forster, M.D., F.R.C.P.C., and Salvatore Spadafora, M.D., F.R.C.P.C.

Résection abdominopelvienne d'un K de l'anus

Table 1. Time Course of Events, Heparin Administration, and Coagulation Results

	Day of Surgery	POD 1	POD 2	POD 3	POD 4
2:00 AM		Blood in catheter			
6:00 AM	Heparin 5,000 U SC				
8:00 AM	Epidural inserted	Comfortable; no back pain	Comfortable; ankle/ knee flexion present	Hip flexion present	Patient unable to ambulate
10:00 AM		Heparin 5,000 U SC	Heparin 5,000 U SC	Heparin 5,000 U SC	Heparin 5,000 U SC
12:00 PM	Hb 7.2 g/dL Pl 154 × 10^9/L INR 1.3 PTT 35 s	Hb 12.2 g/dL Pl 149 × 10^9/L INR 1.3 PTT 35 s	Hb 11.8 g/dL Pl 141 × 10^9/L	Hb 10.8 g/dL Pl 223 × 10^9/L INR 1.0 PTT 27	Hb 11.5 g/dL Pl 126 × 10^9/L
4:00 PM		INR 1.3 PTT 32 s TCT 10.0 s		Epidural Discontinued Normal exam	MRI Transfer to Neuro Unit
6:00 PM	End of procedure Hb 135 g/L Pl 158 × ^{9}/L				
8:00 PM		Blood reappeared in catheter	Infusion discontinued	First complaint leg weakness	
10:00 PM	Heparin 5,000 U SC	Heparin 5,000 U SC	Heparin 5,000 U SC	Heparin 5,000 U SC	L1-L5 Laminectomy

16h

Abbreviations: SC, subcutaneously; Hb, hemoglobin; Pl, platelet count; INR, international normalized ratio; PTT, partial thromboplastin time; TCT, thrombin clotting time; MRI, magnetic resonance images.

KT d'APD placé après 3 tentatives

British Journal of Anaesthesia **82** (2): 288–90 (1999)

BJA

Case Report

Epidural haematoma after removal of an epidural catheter in a patient receiving high-dose enoxaparin†

B. Yin[1] *, S. McG. Barratt[1], I. Power[1] and J. Percy[2]

[1]Department of Anaesthesia and Pain Management and [2]Department of Surgery, University of Sydney, Royal North Shore Hospital, St Leonards, NSW 2065, Australia

**To whom correspondence should be addressed*

A patient developed an epidural haematoma 6 days after removal of an epidural catheter resulting in paraplegia and death. Insertion and removal of the epidural catheter during anticoagulation with prophylactic unfractionated heparin and subsequent administration of high-dose enoxaparin (Clexane), which commenced 3 days after catheter removal, were implicated.

Br J Anaesth 1999; **82**: 288–90

Anesthesiology 2004; 101:143–52

Injuries Associated with Regional Anesthesia in the 1980s and 1990s

A Closed Claims Analysis

Lorri A. Lee, M.D., Karen L. Posner, Ph.D.,† Karen B. Domino, M.D., M.P.H.,‡ Robert A. Caplan, M.D.,§ Frederick W. Cheney, M.D.‖*

Table 5. Injuries to the Neuraxis in Regional Anesthesia Claims, 1980–1999 (n = 84)

	Obstetric (n = 26), No. (% Cases)		Nonobstetric (n = 58), No. (% Cases)	No. Cases Permanent Neurologic Deficit/Total (OB + Non-OB) (% Cases‡)
Hematoma	3 (12)	*	33 (57)	32/36 (89)
Unknown	4 (15)		9 (16)	12/13 (92)
Anterior spinal artery syndrome	2 (8)		3 (5)	4/5 (80)
Meningitis	6 (23)	†	2 (3)§	1/8 (13)
Spinal cord infarct	2 (8)		3 (5)	5/5 (100)
Abscess	6 (23)	†	2 (3)	2/8 (25)
Herniated disc	2 (8)		3 (5)	1/5 (20)
Other causes‖	1 (4)		4 (7)	4/5 (80)

* $P \leq 0.01$ and † $P \leq 0.05$ for obstetric *vs.* nonobstetric regional claims. ‡ % cases refers to percent of cases for each type of neuraxial complication. § In one patient with meningitis and permanent nerve injury, osteomyelitis and abscess developed. ‖ Other causes include cervical fracture after fall from table, arachnoiditis, transverse myelitis, intrathecal catheter, and direct needle trauma without hematoma.

Non-OB = nonobstetric; OB = obstetric.

When known, the etiology for spinal cord injuries was epidural hematoma (n=4, only 1 of which had a coagulopathy), epidural abscess (n=4), direct injection into the cord (n=2), and anterior spinal artery syndrome (n=1).

Davies JM et al. Liability associated with obstetric. A closed claims analysis. Anesthesiology 2009

Anesthesiology 2004; 101:143–52

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Table 6. Associated Factors for Epidural/Spinal Hematoma in Regional Anesthesia Claims, 1980–1999 (n = 36)*

Factor	No. (% of 36)
Any coagulopathy	26 (72)
Intraoperative heparin	20 (56)
Preoperative anticoagulant therapy	8 (22)
Postoperative anticoagulant therapy	8 (22)
Antiplatelet therapy ± subcutaneous heparin	3 (8)
Low-molecular/weight heparin	2 (6)
Intrinsic coagulopathy	2 (6)
Catheter removed on anticoagulation	6 (17)
Needle trauma above L1	6 (17)
Symptoms	
Increased motor block	30 (83)
Increased sensory block	21 (53)
Back pain	9 (25)
Symptom onset, mean	Postoperative day 1 (range, 0–3)
Time of diagnosis, mean†	Postoperative day 2 (range, 0–5)

* Three of 36 hematoma cases were from the obstetrics group: 1 case with severe preeclampsia and 2 cases with evidence of needle trauma above L1.
† $P \leq 0.05$ for symptom onset *vs.* time of diagnosis (*t* test).

The Risk and Outcomes of Epidural Hematomas After Perioperative and Obstetric Epidural Catheterization: A Report from the Multicenter Perioperative Outcomes Group Research Consortium

Brian T. Bateman, MD,* Jill M. Mhyre, MD,† Jesse Ehrenfeld, MD, MPH,‡ Sachin Kheterpal, MD, MBA,† Kenneth R. Abbey, MD, JD,§ Maged Argalious, MD, MBA,‖ Mitchell F. Berman, MD, MPH,¶ Paul St. Jacques, MD,# Warren Levy, MD,** Robert G. Loeb, MD,†† William Paganelli, MD, PhD,‡‡ Kelly W. Smith, MD,§§ Kevin L. Wethington, MD,§§ David Wax, MD,‖‖ Nathan L. Pace, MD, MStat,§§ Kevin Tremper, MD, PhD,† and Warren S. Sandberg, MD, PhD#

Anesth Analg 2013

7/62450 péridurales periopératoires ont développé un HPM évacué chirurgicalement

0/79837 en obstétrique!

Table 2. Demographic and Clinical Characteristics of Patients Who Developed Epidural Hematomas Requiring Decompressive Laminectomy After Epidural Catheterization

Patient	Surgery	Age (y)	Comorbidities	ASA physical status	Type	Level	No. of attempts
1	Sigmoid colectomy	72	DM, HTN, PVD, ESRD (dialysis dependant)	III	Epidural	T9–10	Not documented
2	Hepatectomy	62	Metastatic malignancy	II	Epidural	Thoracic	1
3	Renal artery aneurysms repair	86	HTN, osteoporosis, CAD	III	Epidural	T10–11	3 by resident, 2 by faculty
4	Revision of total hip replacement	55	DM, ankylosing spondylitis	III	Combined spinal/epidural	L3–4	Multiple (exact number not recorded)
5	Endovascular aortic aneurysm repair	78	COPD, pulmonary hypertension, HTN, CAD, leukemia	IV	Planned epidural; spinal catheter placed	L2–3	Not documented
6	Single lung transplant	67	Pulmonary fibrosis, CAD, osteoporosis	III	Epidural	T8–9	1
7	Infrarenal abdominal aortic aneurysm repair	76	Atrial fibrillation, hypertension, osteoporosis, multiple kyphoplasties for spinal compression fracture, mildly elevated liver function tests	III	Epidural	Low thoracic	Multiple (exact number not recorded)

bid = twice daily; CAD = coronary artery disease; COPD = chronic obstructive pulmonary disease; DM = diabetes mellitus; ESRD = end-stage renal disease; heparin = unfractionated heparin; HTN = hypertension; INR = international normalized ratio (prothrombin time); L = lumbar; NGT = nasogastric tube; PTT = partial thromboplastin time; PVD = peripheral vascular disease; q = every; SQ = subcutaneously; T = thoracic; tid = 3 times daily.

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Anesth Analg 2013

Table 2. (*Continued*)

Placement complications	Preoperative antiplatelet/ anticoagulation therapy (time stopped)	INR/PTT/platelet abnormality when catheter placed	Intraoperative antiplatelet/ anticoagulation therapy	Postoperative antiplatelet/ anticoagulation therapy	INR/PTT/platelet abnormality when hematoma noted
None	Warfarin (unknown)	INR = 1.05	—	—	—
None	Heparin 5000 U SQ, dose held for epidural, previous dose 14 h before catheter placement	INR = 1.6 (attributed to factor deficiencies from liver dysfunction or inability to absorb vitamin K secondary to biliary obstruction); PTT = 50	—	Heparin 5000 U SQ tid (started 7 h postplacement)	INR = 5.3; PTT = 56.8
None	Aspirin 81 mg daily (7 d before surgery)	—	Aspirin 325 mg down NGT, heparin 15,000 U IV 156 min after catheter placed	—	—
None	—	—	—	Aspirin 325 mg daily (started day of surgery)	—
Unintended dural puncture with epidural needle	—	—	Heparin 9000 U IV (administered 101 min after catheter placed)	—	—
None	Aspirin 81 mg daily (not stopped)	—	—	Heparin 5000 U SQ q 12 h (started 5 h postplacement; second dose given 8 h postplacement), aspirin 81 mg daily	—
None	Warfarin (4 d before surgery)	PTT = 37.1, INR = 1.6 on evening before surgery	Heparin 5000 U IV (approximately 2 h postplacement), reversed with protamine at the end of the operation	Aspirin 325 mg daily, heparin 5000 U SQ bid (started day of surgery)	INR = 1.5; PTT = 44

Table 3. Clinical Course of Patients Who Developed Epidural Hematomas Requiring Decompressive Laminectomy After Epidural Catheterization

Patient	Presenting symptoms	Time of first symptoms after epidural placement	Time to imaging after first symptoms	Time to laminectomy after first symptoms	Imaging modality and findings	Neurological outcome
1	No sensation or motor strength below T8	32 h	20 h	22 h	MRI; very large epidural hemorrhage and fluid collection causing severe cord compression in lower cervical and upper and mid thoracic spine	No motor power/ sensation below T8
2	Bilateral inability to move lower extremities despite decreased epidural rate	71 h	10 h	12 h	MRI; large, extensive epidural collection with the most mass effect exerted from T10–11 inferiorly to L5 with severe compression on the spinal cord and thecal sac	T9 paraplegia
3	Bilateral lower extremity dense paraplegia	11 h	4 h	7 h	MRI; hematoma noted from T6 to T10 with extradural collection displacing spinal cord anteriorly against vertebrae. No spinal cord signal changes	Complete recovery
4	Bilateral lower extremity sensory and motor deficits	45 h	5 h	6.5 h	MRI; significant posterior epidural fluid collection from the upper aspect of T11 to the L4 level	Wheelchair bound with urologic dysfunction
5	Bilateral motor and sensory deficit, absent deep tendon reflexes	14 h	3 h	9 h	CT myelogram; high-density collection posteriorly in the spinal canal, displacing the spinal contents anteriorly. This is seen in the lower thoracic and upper lumbar regions.	2/5 left lower extremity strength, 0/5 right lower extremity, patchy lower extremity sensation
6	Left leg weakness and loss of sensation	29 h	52 h	54 h	MRI; large complex dorsal epidural collection extending from T6 through T12–L1 with compression of the thoracic cord from T7 through T9. No definite cord signal abnormality	Complete recovery
7	Bilateral lower extremity weakness/ decreased sensation	55 h	7 h (first scan, which was limited because of agitation), 12 h (second scan)	13 h	MRI; hematoma noted from T8 to L1 with ventral displacement of the thecal sac and cord compression. No spinal cord signal changes. Congenitally small central canal	Partial recovery of lower extremity strength

CT = computed tomography; MRI = magnetic resonance imaging.

Epidural Hematoma After Epidural Blockade in the United States: It's Not Just Low Molecular Heparin Following Orthopedic Surgery Anymore

Terese Horlocker, MD and Sandra Kopp, MD

Anesth Analg 2013

Entre 1:2700 et 1:19 505 (études épidémiologiques récentes)
En plus des études ci-dessous, Bateman BT et al. Anesth Analg 2013

1 260 000 rachianesthésies et 450 000 APD: 1:18 000
33 hématomes rachidiens dont 24 (72%), dans les 5 dernières années
- 1:200 000 (obstétrique)
- 1:3 600 (PTG chez les femmes)

13 patients parmi les 15 qui recevaient des HBPM étaient mal gérés par les anesthésistes
Moen V et al. Anesthesiology 2004

1:4 741 (1:1000 chez la femme âgée opérée des membres inférieurs)
Pöpping DM et al. Br J Anaesth 2008

Postoperative spinal epidural hematoma (SEH): incidence, risk factors, onset, and management

Amir R. Amiri, MRCS[a,*], Ioannis P. Fouyas, PhD[b], Suzie Cro, MSc[c], Adrian T.H. Casey, FRCS (SN)[a]

The Spine Journal 2013

- 58% d'hématorachis asymptomatiques compressif en postopératoire de chirurgie rachidienne. Donc une IRM postopératoire systématique n'a pas d'intérêt!
- L'incidence des hématorachis symptomatiques, en postopératoires de chirurgie rachidienne, varie entre 0,1 et 1%
- La plupart d'entre eux surviennent dans les premières heures postop, justifiant une surveillance étroite des 4 premières heures postopératoires

Facteurs de risque d'HPM

- Âge
- Sexe féminin
- Insuffisance rénale
- Canal rachidien étroit
- Mise en place traumatique de l'aiguille et /ou du cathéter
- Mauvaise gestion des anticoagulants (Injection préopératoire trop proche du geste, dose postopératoire ou post retrait du cathéter trop précoce)
- Association à des agents antiplaquettaires

Pathophysiology of Spinal Cord Injury

JBJS 1995

Recovery after Immediate and Delayed Decompression*

By Rick B. Delamarter, M.D.†, John Sherman, M.D.†, and James B. Carr, M.S.†, Los Angeles, California

N2-P2 Amplitude for Posterior Tibial Sensory Evoked Potentials as a Function of the Duration of Compression of the Spinal Cord

Duration of Compression (Hrs.)	Amplitude (μV)*		
	Before Compression	After Compression	6 Wks. After Decompression
0	1.48 ± 0.51	0.57 ± 0.49	1.24 ± 0.49
1	1.83 ± 0.68	0.25 ± 0.19	1.32 ± 1.11
6	1.36 ± 0.48	0.18 ± 0.24	0.39 ± 0.54
24	2.12 ± 0.77	0.33 ± 0.41	0.55 ± 0.69
1 wk.	2.07 ± 0.76	0.11 ± 0.08	0.19 ± 0.23

*The numbers are given as the mean and standard deviation.

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DOI: 10.3109/02688697.2013.793289

REVIEW ARTICLE

Spinal epidural haematoma; factors influencing outcome

Nitin Mukerji & Nicholas Todd

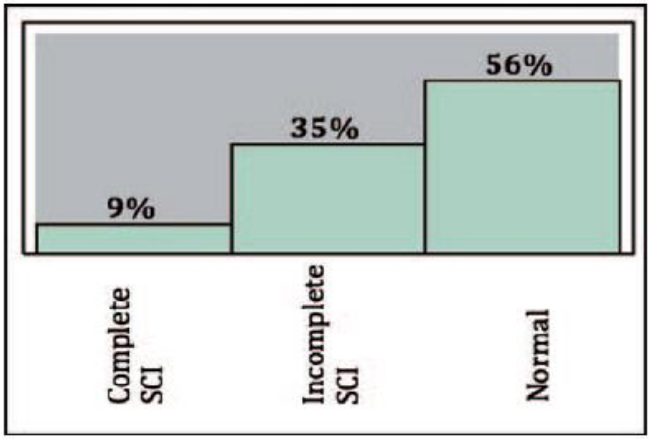


Fig. 1. Degree of post-operative neurological recovery, when the pre-operative neurological deficit was incomplete. Complete SCI, Frankel A; Incomplete SCI, Frankel BCD; and Normal, Frankel E. From Kreppel et al.[5], Foo and Rossier[2], Borm et al.[1], Lawton et al.[6] and McQuarrie[7].

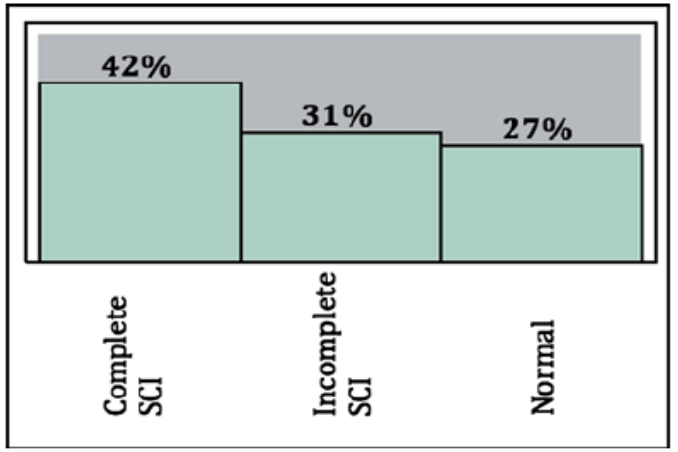


Fig. 2. Degree of post-operative neurological recovery, when the pre-operative neurological deficit was complete. Complete SCI, Frankel A; Incomplete SCI, Frankel BCD; and Normal, Frankel E. From Kreppel et al.[5], Foo and Rossier[2], Borm et al.[1], Lawton et al.[6] and McQuarrie[7].

Table I. Timing of surgery and final outcome.

Final outcome \ Timing of surgery	0–12 h	13–24 h	25–72 h
E	31 (66%)	13 (26%)	22 (32%)
D	10 (21%)	5 (10%)	16 (23%)
C – A	6 (13%)	32 (64%)	31 (45%)

From Kreppel et al.[5]
$n = 166$ patients treated within 72 h; Final outcome, Frankel grade; %, % of patients in each of the 3 time periods; Timing, time of surgery from first symptom onset.
Comparing: 0–12 cf 13–24 h.
E cf D – A. $X^2 = 15.6$, 2 df, $p < 0.001$.
E + D cf C – A. $X^2 = 26.7$, 2 df, $p < 0.001$.

Table II. Outcome in patients with severe deficits.

	N	Complete recovery	Minor ↓	Major ↓	Paralysis
Complete B/Id	153	31 (25%)	32 (21%)	45 (29%)	45 (29%)
Complete	31	11 (35%)	6 (19%)	6 (19%)	8 (26%)
In/Complete B/Id	27	11 (41%)	4 (15%)	7 (26%)	5 (21%)
In/Complete	13	3 (23%)	3 (23%)	5 (38%)	2 (15%)

From Kreppel et al.[5]
$n = 224$; Complete = acute onset, complete paralysis; In/Complete = acute onset, complete paralysis or complete sensory deficit; B/Id = bladder or intestinal dysfunction.

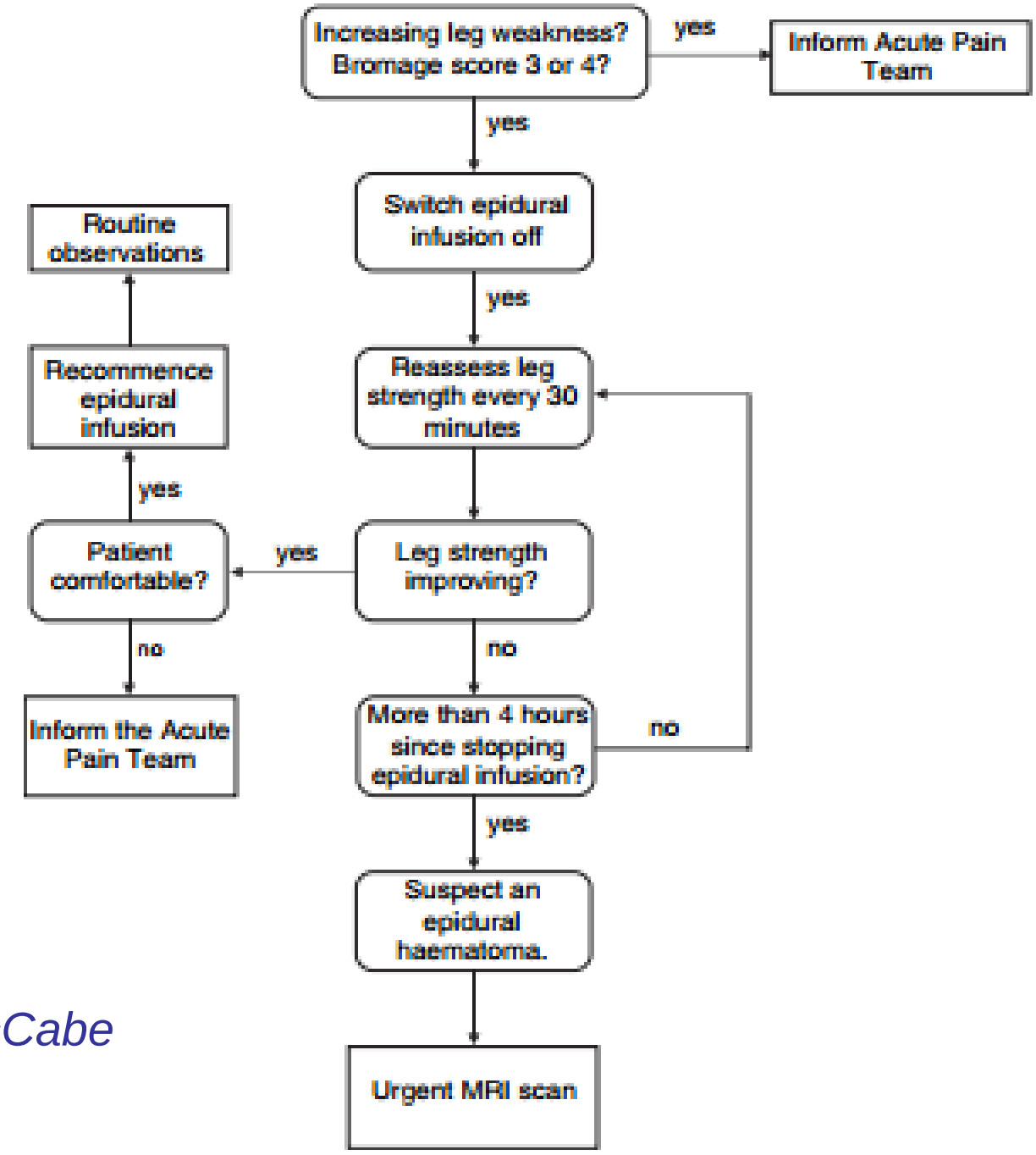
Lawton MT et al.

J Neurosurg 83:1–7, 1995

Surgical management of spinal epidural hematoma: relationship between surgical timing and neurological outcome

Thirty patients were treated surgically for spinal epidural hematoma (SEH). Twelve of these cases resulted from spinal surgery, seven from epidural catheters, four from vascular lesions, three from anticoagulation medications, two from trauma, and two from spontaneous causes. Pain was the predominant initial symptom, and all patients developed neurological deficits. Eight patients had complete motor and sensory loss (Frankel Grade A); six had complete motor loss but some sensation preserved (Frankel Grade B); and 16 had incomplete loss of motor function (10 patients Frankel Grade C and six patients Frankel Grade D). The average interval from onset of initial symptom to maximum neurological deficit was 13 hours, and the average interval from onset of symptom to surgery was 23 hours. Surgical evacuation of the hematoma was performed in all patients; 26 of these improved; four remained unchanged, and no patients worsened (mean follow up 11 months). Complete recovery (Frankel Grade E) was observed in 43% of the patients and functional recovery (Frankel Grades D or E) was observed in 87%. One postoperative death occurred from a pulmonary embolus (surgical mortality 3%). Preoperative neurological status correlated with outcome; 83% of Frankel Grade D patients recovered completely compared to 25% of Frankel Grade A patients. The rapidity of surgical intervention also correlated with outcome; greater neurological recovery occurred as the interval from symptom onset to surgery decreased. Patients taken to surgery within 12 hours had better neurological outcomes than patients with identical preoperative Frankel grades whose surgery was delayed beyond 12 hours. This large series of SEH demonstrates that rapid diagnosis and emergency surgical treatment maximize neurological recovery. However, patients with complete neurological lesions or long-standing compression can improve substantially with surgery.

Leg weakness and epidural analgesia: a management algorithm

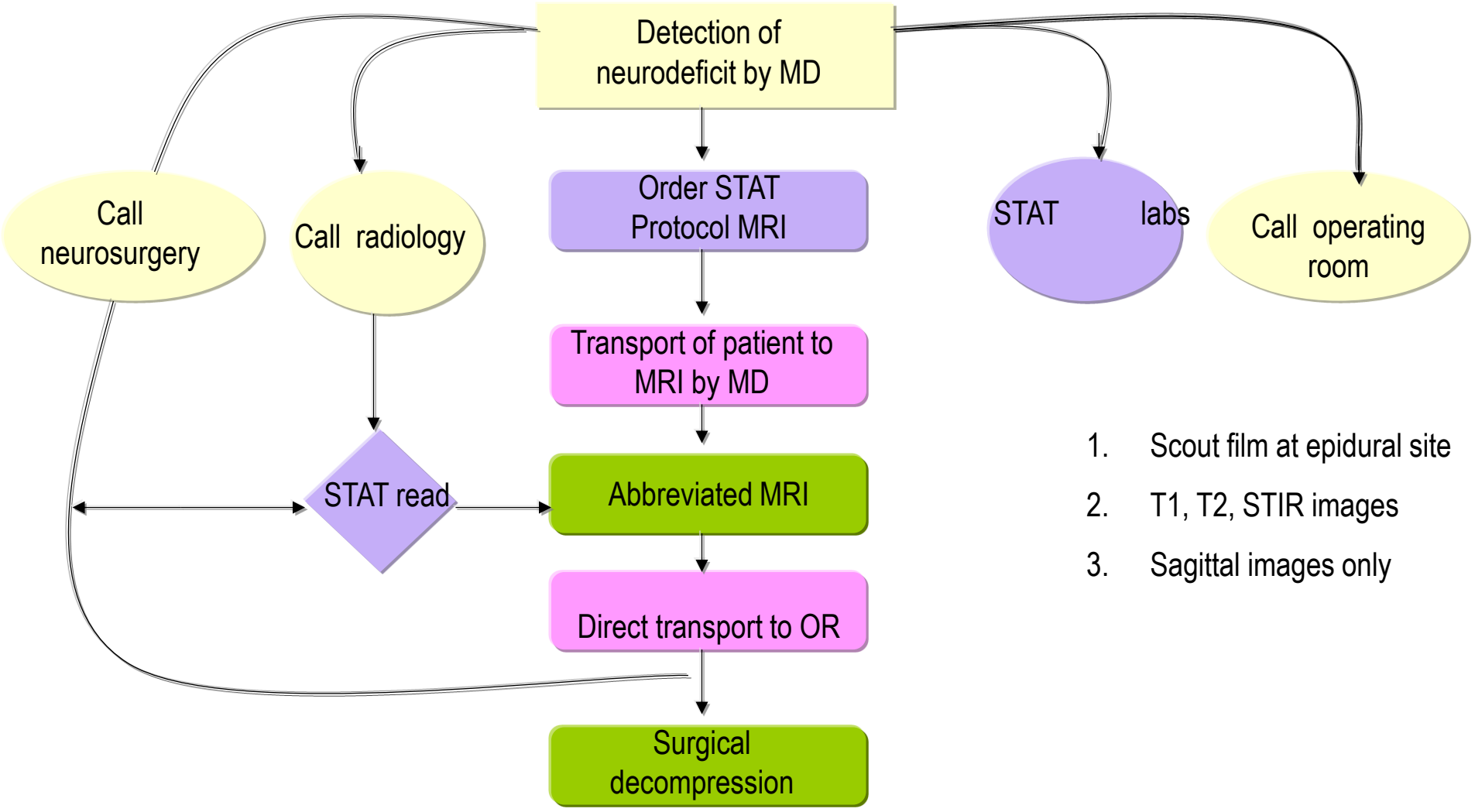


IW Christies and S McCabe
Anaesthesia 2007

Gagner du temps…

Si votre établissement ne dispose pas d'une IRM, le transfert du patient devra
se faire dans un établissement qui, non seulement disposera de cette imagerie, mais également d'une équipe chirurgicale à même d'évacuer l'HPM et de décomprimer la mœlle épinière

Protocole d'IRM accéléré pour détection rapide d'un hématome périduralélaboré par Anesthésistes/Radiologues et Neurochirurgiens



1. Scout film at epidural site
2. T1, T2, STIR images
3. Sagittal images only

J Anesth (2014) 28:306–307
DOI 10.1007/s00540-013-1685-6

LETTER TO THE EDITOR

Epidural analgesia confusing the diagnosis of spontaneous acute thoracic epidural hematoma after cesarean section

Linli Luo · Liangxue Zhou · Juan Ni · Dong Luo

Femme 31 ans: césarienne pour souffrance fœtale

APD en L1-L2 sans problème apparent

Récupération de l'anesthésie 4 heures plus tard

À H+15 scapulalgie gauche + doraslagie

A H+24 déficit sensitif des 2 jambes

A H+29 déficit moteur avec diminution des ROT sous L3

H+36: HPM thoracique (T1-T3) spontané

Mariland Medical Journal 1999

Spinal subdural hematoma: a rare complication of lumbar puncture

Case report and review of the literature

Leonard E. Egede, M.D., Howard Moses, M.D., and Henry Wang, M.D.

Epidemiological studies show an equal male to female ratio. All ages are affected with a slightly higher incidence in elderly patients. The thoracic spine is more often involved followed by the lumbar spine.[10] A review of the English literature in 1983 found 33 cases of spinal hematoma occurring after attempted lumbar puncture, and they were categorized as subarachnoid in twelve cases, subdural in six cases, both subdural and subarachnoid in six cases, and epidural in seven cases. Twelve of these lumbar punctures were described as difficult and five as being bloody.[1]

Another review in 1996 found nine more reported cases of subdural hematoma with only two related to lumbar puncture.[9]

The source of subdural hematoma is not clear because there are very few vessels within the subdural space. It is attributed to the puncture of Batsons' epidural venous plexus, tearing of delicate subdural vessels, or lacerations of the radicular vessels that course along the surface of each long cauda equina root.[4] Spinal subdural hematoma after traumatic lumbar puncture may be due to blood that dissects from a lacerated radicular vessel into the subdural space where it organizes and remains.[4]

Conclusion

Spinal subdural hematoma after a traumatic lumbar puncture, though rare, is an established clinical entity. Physicians should be alert to this potentially serious complication of lumbar puncture, particularly in patients presenting with persistent back or neck pain in the right clinical setting who do not respond promptly to treatment for the presumed diagnosis. Physicians should not hesitate to order cervical and/or thoracic spine MRI when the diagnosis is suspected even when pressure for cost containment is high.

Messages to take home

- Appliquer les recommandations sur la gestion des anticoagulants +++
- L'évaluation neurologique d'un patient sous APD doit être faite/4h et jusque 24h après le retrait du KT
- Penser à l'HPM+++ (facteurs de risques liés au patient, à la pose de l'APD et à l'acte chirurgical)
- Écrire des protocoles
  1) de surveillance des patients et d'appel du médecin par les IDE du service,
  2) de gestion d'une APD en cas de doute
  3) de stratégie des examens radiologiques

Cas n° 3

- ✓ Madame Anne Estésy de Lamoile, âgée de 79 ans est programmée pour une cure chirurgicale de HID à ciel ouvert. Dans ses ATCD : HTA-ACFA-Scoliose. Traitement par AVK
- ✓ Anesthésie prévue en CPA : Rachianesthésie
- ✓ J0 : RAS. Elle se lève le soir de l'intervention
- ✓ J+1 : paresthésies au matin membre inférieur droit irradiant au sein ipsilatéral, rapidement suivi d'une paralysie
- ✓ Un scanner en urgence est réalisé, il est négatif, l'IRM montrera un hématome sous dural aigu de T2 à T4.
- ✓ Transfert CHU avec déficit complet aux membres inférieurs, niveau sensitif T4, troubles sphinctériens (béance anale, globe vésical et miction par regorgement), Babinski bilatéral. Evacuation en urgence d'un hématome compressif de T2 à T4.
- ✓ Récupération incomplète : douleurs dorsales, déambulation en fauteuil, sonde urinaire à demeure.

Ce qui est reproché au MAR :
- pas de contrôle de l'INR la veille ou le matin de l'intervention
- relais fait par Lovenox en curatif, avec dernière injection la veille de l'intervention
- injection d'AINS

Une complication rare de la ponction lombaire : l'hématome sous-dural intrarachidien

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Spinal subdural hematoma: a rare complication of lumbar puncture. Case report and review of the literature.

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Abstract

Spinal subdural hematoma, though rare, is an established complication of lumbar puncture. A young man with persistent back and neck pain after a traumatic lumbar puncture for the diagnosis of lymphocytic meningitis is presented. A diagnosis of spinal subdural hematoma at T2 to T8 levels without significant spinal cord compression was confirmed by magnetic resonance imaging. Symptoms resolved after one month of analgesics and muscle relaxants.