

ER-GS COMBINE MEETING CASE REPORT

R1吳冠蓉/V.S連楚明

102.12.18

Basic data

- Gender: 40-yo male
- Date: DAY 1 06:49 am
- C/C: 車禍,左上肢鈍傷,左手大拇指麻
- TPR: 37/88/18 BP:138/86
SpO₂: 98% GCS: E₄V₅M₆
- Triage: 2

Present illness

- 今早機車和汽車擦撞
- Helmet(+), no HI
- No chest/abdomen/pelvic pain
- No neck pain, 但自訴早上有落枕
- Left thumb pain, multiple abrasion

History

- Medical hx: Denied
- Allergy: NKA

Physical Examination

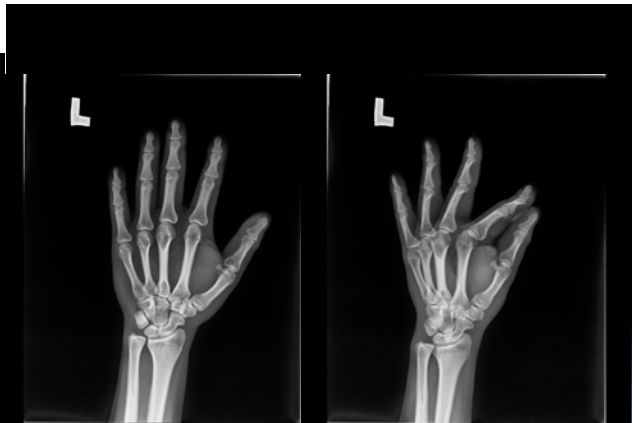
- Consciousness: E₄V₅M₆
- HEENT: no midline tender
- Chest: clear breathing sound
- Abdomen: Soft, no tender, no guarding
- Extremities: ROM ok, walk ok, abrasion at bilateral knees, elbows, and left hand; left thumb swelling

Impression

- Multiple abrasion
- Left hand contusion, r/o fracture

Order DAY1 06:59am

- C-spine AP/LAT X-ray
- Left hand X-ray
- T.T 0.5ml IM ST
- Tinten 1tab TID PO
- Wound CD



Order 07:30

- MBD and OPD f/u

Basic data

- Gender: 40-yo male
- Date: DAY1 12:17 am
- C/C: 車禍早上剛離院,現左胸腹疼痛冒冷汗
- TPR: 37/101/20 BP:105/65
SpO₂: 99% GCS: E4V5M6
- Triage: 3

Present illness

- 今早機車被汽車擦撞,當時不會痛,現肚子痛 ↑
- Left abdominal pain noted after going home this morning
- Normal urination

Physical Examination

- Consciousness: clear
- HEENT: pale face
- Chest: no tender
- Abdomen: LUQ abdominal tenderness

Impression

- Internal bleeding
- Spleen rupture

Order DAY1 12:30

- E.FAST
- 改Triage I
- 啟動trauma blue

Finding: Ascites in splenorenal space with spleen hematoma
Impression: splenic rupture with internal bleeding

Order DAY1 12:30

- On large bore IV with warm N/S 1000ml ST
- CBC/DC/PLT
- BUN, Cr, Na, K, GOT, Glu, Troponin I
- PT/aPTT
- VBG (3)
- NPO
- Brain CT, Whole body CT with/without contrast
- 備pRBC 8u
- Morphine 5mg IV ST
- On EKG, BP monitor
- N/S run 80ml/hr
- On O₂ mask 6L/min



Lab

CBC/Platelet/DC *****				
WBC	20.3	X1000/ul	3.8	10 *H
RBC	4.48	million	4.5	5.7 *L
Hb	15.9	gm/dl	13	18
Ht	41.5	%	40	54
MCV	92.6	fl	81	98
MCH	35.5	pg	27	32 *H
MCHC	38.3	%	32	36 *H
RDW	13.7	%	11.5	14.5
Platelet	189	x1000/ul	140	450
Differential count *****				
Segmented Neutro.	83.1	%	37	75 *H
Lymphocyte	7.3	%	20	55 *L
Monocyte	7.2	%	4	10
Eosinophil	0.3	%	0	5
Basophil	0.1	%	0	2
Metamyelocyte	2.0	%	0	0 *H

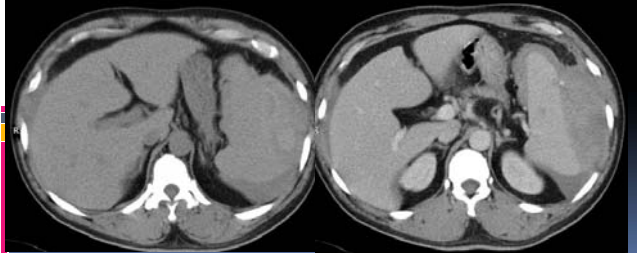
Lab

PT	11.8	second	9.4	12.5
Normal control	10.8	second		
INR	1.09	Ratio	0.8	1.2
APTT	30.5	second	28.6	38.6
Normal control	33.3	second		
APTT ratio	0.92			

Glucose	156	mg/dL	70	110	*H
GOT(AST)	19	U/L	5	35	
BUN	15	mg/dL	7	25	
Creatinine	0.7	mg/dL	0.5	1.3	
Na	138	meq/L	133	145	
K	3.8	meq/L	3.3	5.1	
eGFR	124.90				
Lipase	6	U/L	11	82	*L

Brain + Whole body CT DAY1

- Laceration/rupture of the spleen. Suspect active extravasation noted and subcapsular hematoma present.
- Bloody ascites is noted.



Order DAY1 13:55

- Consult GS
- Pre-OP/ Sign permit
- Sent to OR on call
- Admit to ICU

we will arrange emergent operation for him

TPR:37.7/63/20; BP:120/62; SpO2:100%

DAY1



OR DAY1 15:05

OP method: splenectomy

手術發現：

1. Spleen laceration (anti-hilum part) with subcapsular hematoma
2. about 1250 ml bloody ascites and blood clot noted

Blood transfusion of pRBC 2u

Introduction

Splenic rupture

1. Introduction
2. Treatment
3. Delayed splenic rupture

Introduction

- **Symptom:** left upper abdominal, left chest wall, or left shoulder pain (Kehr's sign)
- **PE:**
 - LUQ or generalized abdominal tenderness, abdominal wall contusion or hematoma (seat belt sign)
 - left lower chest wall tenderness, contusion, or instability due to rib fractures.
 - an unremarkable physical examination does not exclude splenic injury

Grade	Injury Type	Injury Description
I	Haematoma	Subcapsular < 10% surface area
	Laceration	Capsular tear < 1cm parenchymal depth
II	Haematoma	Subcapsular 10-50% surface area: intraparenchymal < 5cm
	Laceration	Capsular tear 1-3cm parenchymal depth not involving trabecular vessel
III	Haematoma	Subcapsular > 50% surface area or expanding; ruptured subcapsular or parenchymal haematoma; intraparenchymal haematoma >5cm or expanding
	Laceration	> 3cm parenchymal depth or involving trabecular vessels
IV	Laceration	Laceration involving segmental or hilar vessels producing major devascularisation (>25% of spleen)
V	Laceration	Completely shattered spleen
	Vascular	Hilar vascular injury with devascularised spleen

Advance one grade for multiple injuries up to grade III
From Moore et al, Organ Injury Scoring: spleen and liver J Trauma 1995;38:323

Grade	Criteria
1	Subcapsular haematoma < 1 cm thick Laceration < 1cm parenchymal depth Parenchymal haematoma < 1cm diameter
2	Subcapsular haematoma 1-3 cm thick Laceration 1-3cm in parenchymal depth Parenchymal haematoma 1-3cm in diameter
3	Splenic capsular disruption Subcapsular haematoma > 3cm thick Laceration > 3cm in parenchymal depth Parenchymal haematoma > 3cm in diameter
4a	Active intraparenchymal and subcapsular splenic bleeding Splenic vascular injury (pseudoaneurysm or arteriovenous fistula) Shattered spleen
4b	Active Intra-peritoneal bleeding

Proposed new grading system incorporating Splenic Vascular Injury.
AJR December 2007 vol 189 no 6 1421-1427

Treatment

- Hemodynamically unstable: (+)FAST → emergent abdominal exploration
- Hemodynamically stable: → OBS
 - low-grade (I to III) blunt or penetrating splenic injuries
 - without other intra-abdominal injuries,
 - No active contrast extravasation
- Hemodynamically stable: embolization
 - controversial for higher grade (IV, V) injuries and in patients >55 y/o

CASE REPORT

Open Access

Trivial trauma and delayed rupture of a normal spleen: a case report

Nicholas Sowers¹ and F. Kris Aubrey-Bassler^{2*}

Journal of Medical Case Reports 2011, 5:591



- 27 y/o man, 玩摔跤 one week ago; No symptom at that time
- Then at ER, BP:80/60 HR:60, RR:26, severe, sharp chest and abdominal pain radiating to his shoulder blades and testicles

Nonsurgical management of delayed splenic rupture after blunt trauma

Liu, Po-Ping MD; Liu, Han-Tsung MD; Hsieh, Ting-Min MD; Huang, Chun-Ying MD; Ko, Sheung Fat MD

The Journal of Trauma and Acute Care Surgery
Issue: Volume 72(4), April 2012, p 1019-1023

- Delayed splenic rupture (DSR)
 - significant hemorrhage from a ruptured spleen **more than 48 hours** after trauma.
 - The interval with no or subclinical symptoms is known as the "**latent period**" and may range from **days to weeks**, even longer.
 - The incidence of DSR is reported to range from **0.3% to 24% → 1% to 2**
 - Mortality: **5% to 15% for DSR** V.S 1%

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Etiology of DSR

- delayed diagnosis and presentation after the initial trauma episode.
- secondary to the **sudden release of a contained subcapsular hematoma** by clot lysis
- splenic parenchymal **pseudoaneurysms**, the walls of which degrade by clot lysis

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- Minor trauma is more likely to result in occult injury and delayed hemorrhage.
- **Most patients with DSR → lesser trauma,**
- DSR is rarely associated with major intra-abdominal injuries.

