

FULL PATIENTS DATA

Traumatic force	Presentation	C.T. fractures of the lesion	Spinal lesion	Other lesions	McAfee Class.	Magerl Class.
Blow to the back	Low back pain	- Anterior column fracture of L2. - Traumatic disc bulge L1-2, L2-3.	Compromised spinal root by disc.	-	In complete Burst	A. 2.1
Lift heavy weight	Low back pain	- Posterior disc bulge of L5-S1	Compromised thecal sac.	-		
Lift heavy weight.	Low back pain referred to the L.L. (bath)	- Posterior disc bulge of L4-5 & L5-S1.	Compromised thecal sac.	-		B.3.12
Blow to the back	Low back pain	- Bilateral pars fracture of L2.	-	-		
Fall from a height	In ability to move both L.L. & painful left L.L.	- Fracture of L1 which extend to the neural arch with posterior fragments in neural canal & bilateral pars interarticularis fracture. - Loss of L1 height - Traumatic disc bulge of L1-2	Compromised neural canal by bony displacement & disc bulge.	- Head injury - left LL fracture	Complete burst fracture	A. 2.3
Blow to the back	Low back pain	- L4-5 posterior discal bulge indenting thecal sac.	Compromised thecal sac.	-	-	
Blow to the back	Low back pain	- Bilateral pars fracture of L4. - Post disc bulge & vacuum phenomena of L4-5.	-	-		B. 3.12

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Traumatic force	Presentation	C.T. fractures of the lesion	Spinal lesion	Other lesions	McAfee Class.	Magerl. Class.
Lift heavy weight	Low back pain	- Bilateral pars fracture of L4. - Post-disc bulge & vacuum phenomena of L4-5	Compromised thecal sac by posterior disc bulge.	-		B.3.12
Lift heavy weight	Low back pain referred to both L.L.	- Bilateral pars fracture of L4 with consequent spondylolethesis and pseudo disc bulge of L4-5.	Compromised thecal sac by posterior disc bulge.	-		B.3.12
fall from a height	Low back pain	- Anterior column fracture of D12, L1. - Multiple disc bulge L2-3, L3-4, L4-5.	Compromised spinal root by disc.	- Painful left LL - Internal hemorrhage - Chest fracture	Wedge fracture.	A 1.3
load traffic accident fall from a height	Low back pain In ability to move both L.L.	- Transverse process of L1	-	haematuria		
		- Sagittal split of L1 & all column fracture & fragmentation of anterior neural arch, bilateral pars fracture, traumatic spondylolethesis, traumatic disc bulge of L1-2.	Neural canal compromised by fragments & bony neural arch.	- Internal hemorrhage. - head trauma. - Left L.L fracture.	Chance fracture	
fall from a height	- In ability to move both L.L. - Painful Right L.L.	- All column fracture, sagittal split of the vertebrae. - Neural canal narrowing by walls anterior & posterior displaced posteriorly and anteriorly respectively. - Left lamina fracture. Left facet joint fracture. - Rotation of the vertebra to the right.	Compromised by displaced anti post. aspects of neural arch.	- Internal hemorrhage - Head trauma - Right L.L fracture.	Complete burst fracture	A 2.3

RESULTS

Sex	Traumatic force	Presentation	C.T. fractures of the lesion	Spinal lesion	Other lesions	McFee Class.	Magerl Class.
40	Fall from a height	In ability to move both L.L.	- Burst fracture of all column of L1 - Fracture split vertebral body to the neural arch, Ant-displaced fragments. - Spinous process fracture. - Posterior fragment in neural canal.	Compromised by neural arch displacement & fragment in neural canal.	- head trauma	Comp. Burst fracture.	A. 3.1
41	Blow to the back	Low back pain	- Bilateral pars-fracture of L4. - Traumatic spodylolethesis	-	-		B. 3.1.2
45	Road traffic accident	In ability to move both lower limbs	- Fracture of D12, L1 and split of L1 neural arch narrowing by ant-displacement of posterior wall and posterior displacement of anterior wall. - Lt. Lamina fracture.	Neural canal compromised by bony arch.	-Head trauma chest fracture. - Internal hemorrhage.	Complete burst fracture.	A.3.3.2 A.3.1
F/45	Motor Car accident	Limited painful movement	- Split of sacralised L5 vertebral body & left pedicle to left sacroiliac joint & left, facet joint fracture.	-	-	Pelvic fracture.	
F/46	Lift heavy weight	Low back pain	- Bilateral pars fracture of L3. - Traumatic spodylolethesis. - L3-4 disc bulge posteriorly indenting thecal sac.	Compromised thecal sac by post-disc bulge	-		

RESULTS

Continue:

Traumatic force	Presentation	C.T. fractures of the lesion	Spinal lesion	Other lesions	McAfee Class.	Magerl. Class.
Blow to the back	Low back pain referred to both L.L.	- Bilateral pars fracture of L4. - Traumatic disc bulge of L4-5.	Compromised thecal sac by post-disc bulge.			B.3.1.2
Road traffic accident	In ability to move both L.L.	- All column fracture of L2. - Ant. & post. Displacement of fragments. - Neural arch is narrowed by anterior & posterior displacement of posterior & anterior aspects respectively, of pars interarticularis, fracture of spinous process, fragments in the neural canal.	Compromised spinal cord by displaced anterior and posterior aspects of post. & Anterior walls of neural arch and bony fragments in neural canal.	Internal Hemorrhage	Complete burst fracture	A.2.3

Table (6) : Patient groups according to age.

Age group	Patient affected	
	No.	%
< 20 %	3	15
20-40 %	11	55
40-60 %	5	25
> 60 %	1	5

Table (6) shows:

*Most of patients are in age group from 20 – 40 % (55 %) & 40 – 60 (25%)
which is the productive & working age*

Table (7) : Type of trauma

Trauma	No of patient	%
▪ Blow to the back	6	30
▪ Lift heavy weigh	5	25
▪ Fall from a height	4	20
▪ Car accident	5	25
▪ Motor car accident (MCA).	1	5
▪ Road traffic accident (RTA)	4	20

Table (7) shows

Most common type of trauma is blow to the back (30%) then lift heavy weight (25%)

Table (8) : Age group in relation to type of trauma

Age group	Type of trauma	Patient affected	
		No.	%
< 20 % (3)	▪ Lift heave weight	2	10
	▪ Blow to the back	1	5
20. 40 % (11)	▪ Fall from a height	5	25
	▪ Blow to the back	3	15
	▪ Lift heavy weight	2	10
	▪ Car accident	1	5
40 – 60 % (5)	▪ Car accident	2	10
	▪ Blow to the back	2	10
	▪ Lift heavy weight	1	5
> 60 % (1)	▪ Car accident	1	5

Table (8) shows

Most common trauma causing injury differs in the different age group.

Table (9): Clinical presentation

Clinical presentation	No. of patients %	
1) Neurological presentation related to the spine.	20	100
▪ Lower limb pain	14	70
▪ Sphenicteric disturbance.	1	5
▪ Paraplegia	5	25
2) Associated injuries.	17	85
▪ Chest fracture.	2	10
▪ Internal hemorrhage.	4	20
▪ Head injury or trauma.	5	25
▪ Limb fracture.	4	20
▪ Pelvic fracture.	1	5
▪ Haematuria.	1	5

Table (9) shows

All patients with lumbar injury presented with neurological disorder most commonly low back pain & painful limb (70%)

Most of patients have other associated injuries (85 %).

Table (10): Extent & level of vertebral lesions

Level	Patient affected	
	No.	%
1- single level	14	70
▪ L1	5	25
▪ L2	3	15
▪ L3	1	5
▪ L4	5	25
▪ L5	-	0
2- Multiple levels	3	15
▪ 2 vertebrae	3	15
	(D12- L1 / D12 – L1 / L5 – S1)	
▪ 3 vertebrae	0	0

N.B. *Pure disc lesions are out of this table (3 cases) 15% of cases.*

Table (10) shows

single level lesion is the most common 65% with main vertebra affected L1 & L4 25% & 25% respectively. L5 is never have single level lesion but only multiple level.

Table (11): Extent & level of disc lesion

Level	Patient affected	
	No.	%
1) single level	12	60
▪ T 12 – L1	-	0
▪ L1 – 2	1	5
▪ L2 – 3	1	5
▪ L3 – 4	1	5
▪ L4 – 5	7	35
▪ L5 – S1	2	10
2) Multiple level	5	25
▪ L1 – 2 & L2 – 3		
▪ L2 – 3 , L3-4 & L4-5		
▪ L4 – 5 & L5 – S1		
▪ D12 – L1 & L1-2		
▪ N1 – 2 & L2 – 3		

N.B:- 3 Cases are out of this table (11), 2 cases are pars fracture & 1 case transverse process fracture.

Table (11) shows.

Most common single disc lesion level is L4-5 (35 %)

Table (12): Extent of column lesions within each affected vertebra according to Denis.

Column affected	Vertebra affected	
	No.	%
Single column	10	50
▪ Anterior	3	15
▪ Middle	-	0
▪ Posterior	7	35
▪ Two columns	-	0
▪ Three columns	9	45

- *N.B. No. of vertebrae affected (20) according to table (10).*
- *One case is transverse process fracture that is out of this classification & 19 under classification.*
- *Table (12) shows.*
- *single Posterior column lesion is the most common 35 %.*
- *Two columns lesions are not encountered in this study.*
- *Three column lesions are 45 % .*

Table (13): Vertebral Stability according to Denis

Stability	Vertebrae affected	
	No.	%
Stable	11	55
Non - stable	9	45

Table (13) shows

- *Most of cases are stable (55 %)*
- *Non stable 45 % has multiple column lesion.*

Table (14): Vertebral lesions according to Magerl class.

<i>Vertebra</i>	<i>Patient No.</i>	<i>Magerl classification</i>		
		<i>Compression</i>	<i>Distraction</i>	<i>torsion</i>
<i>T 12</i>	<i>2</i>	<i>1</i>	<i>-</i>	<i>1</i>
<i>L1</i>	<i>7</i>	<i>6</i>	<i>-</i>	<i>-</i>
<i>L2</i>	<i>3</i>	<i>2</i>	<i>1</i>	<i>-</i>
<i>L3</i>	<i>1</i>	<i>-</i>	<i>1</i>	<i>-</i>
<i>L4</i>	<i>5</i>	<i>-</i>	<i>5</i>	<i>-</i>
<i>L5</i>	<i>1</i>	<i>1</i>	<i>-</i>	<i>-</i>
<i>S1</i>	<i>1</i>	<i>1</i>	<i>-</i>	<i>-</i>
<i>Table case</i>	<i>20</i>	<i>11</i>	<i>7</i>	<i>1</i>
<i>Total percentage</i>	<i>% 100</i>	<i>% 55</i>	<i>% 35</i>	<i>% 5</i>

N.B L1 fractures include a case of transverse process fracture which is out of Magerl classification.

Table (14) shows

- *Most of cases can be classified under Magerl classification.*
- *The most common cause is compression force 55 % .*
- *L 1 vertebra is the most affected by compression force.*
- *L 4 vertebra is the most affected by distraction force.*

Table (15): Classification according to C.T spinal injuries (McAfee) classification

Type	Patient affected	
	No.	%
1- Wedge fracture.	1	5
2- incomplete burst fracture.	1	5
3- complete Burst fracture.	5	25
4- chance fracture.	1	5
5- Flexion distraction injury.	-	-
6- Translation injury.	-	-
Total	8	40 %

Table (15) shows

1- Most of cases 60 % are out of this classification.

2- Most common C.T spinal injury is type III (complete Burst fracture).