

The status of pressure ulcer  
in paraplegic patients due to traumatic spinal cord  
injury in community

***Cam Ba Thuc MD***

***Central Public Rehabilitation Hospital***

***Thanh Hoa province – Vietnam SR***

# INTRODUCTION

- Pressure ulcer are a lifelong, serious complication of spinal cord injury (SCI).
- Incidence/prevalence: N.T.Bình (2004) prevalence in surgical phase was 31.4%; V.H.Trinh (2005) prevalence in rehabilitation phase was 31.4%. Mawson et al (1998) prevalence in hospital period was 39-40%; Yarkony and Heinmann (1995) prevalence in acute and rehabilitation phase was 34%.
- Pressure ulcer are defined as lesion caused by unrelieved pressure in damage underlying tissue.

- Cause highly cost of treatment: Braun et al (1992) the cost to heal a complex wound was \$70.000, less serious wound was \$20.000 to \$30.000. Miller and Delozier (1994) estimate total cost of treating pressure ulcer was \$1.335 billion per year in USA.
- Pressure ulcer interfere with physical, psychological, and social well-being and impact overall quality of life.

## **Goals of study**

**Evaluate the status of pressure ulcer**

# OBJECTS AND METHODOLOGY OF STUDY

Objects of study: Paraplegic patients due to traumatic SCI, dismissal from surgical beds without rehabilitation over 06 months, are living in community. Expel patients concomitants brain injury, mental ill, amputee...etc...

**Methodology of study:** Crossection study

**Criterion of Evaluation:**

- Classification of neurological deficit based on ASIA impairment scale (1996)
- Classification of stage ulcer based on Cuddigan and Frantz (1998)

**Process Data: Statistical Mathematics**

# RESULT AND COMMENT:

## Table 1: Age and Gender

Gender Age	Male		Female		Total Number (%)
	Number of patient	%	Number of patient	%	
<20	2	7.14	0	0	2 (7.14)
<b>20 - 59</b>	<b>20</b>	<b>71.44</b>	<b>5</b>	<b>17.85</b>	<b>25 (89.29)</b>
≥ 60	0	0	1	3.57	1 (3.57)
<b>Total</b>	<b>22 (78.58)</b>		<b>6 (21.42)</b>		<b>28 (100%)</b>

- Comment: The age between 20 – 59 occupied 89.29% (working age), male more than female 3.6 times.
- D.H.Linh (2004) age between 20-59 occupied 78.9%, male more than female 3.7 times.
- V.H.Trinh (2005) age between 20-59 occupied 79.3%, male more than female 3.2 times.
- Marotta (1995): 65% patients under 35 years old (US)
- Razack (2000) Average age of patients was 35 years old (Malaysia).

## Table 2: Classification of neurological deficit.

Categories of ASIA	Number of patients	Percentage (%)
A	10	35.72
B	1	3.57
C	12	42.86
D	5	17.85
<b>Total</b>	<b>28</b>	<b>100%</b>

- Comment: Complete lesion ( ASIA grade A) occupied 35.72%
- N.T.Binh (2004) : Complete lesion occupied 51.0% (Surgical bed)
- N.H.Trung (2001): Complete lesion occupied 48.29% (Surgical bed).
- N.D.Nghia (1999): Complete lesion occupied 63.1% (Surgical bed).

## Table 3: Developed pressure ulcer depend on severity of SCI

Pressure ulcer Grade of ASIA	Developed pressure ulcer Number (%)	Undeveloped pressure ulcer Number (%)
A	6 (60%)	4 (40%)
B	1 (100%)	0 (0%)
C	7 (58.34%)	5(41.66%)
D	1 (20%)	4 (80%)
Total	15	13

- Comment: 60% patients with ASIA grade A developed pressure ulcer.
- D.H.Linh (2004): 52.2% patients admitted complete lesion developed pressure ulcer.
- N.T.Binh (2004) : 50% patients admitted complete lesion developed pressure ulcer.
- Richardson & Mayer (1981), Salzberg et al (1998), Curry & Casady (1992), Mawson et al (1988): Reported that complete SCI was significance related to the development of pressure ulcer.

**Table 4: Severity of pressure ulcer depend on SCI.**

<b>ASIA</b> <b>Stage of Ulcer</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
I				
II			7 (46.66%)	1 (6.67%)
III	3 (20%)	1 (6.67%)		
IV	3 (20%)			

- Comment: In population developed pressure ulcer, 40% was ASIA grade A. Of these, 20% in stage III, 20% in stage IV. Its clearly that complete lesion developed serious pressure ulcer.

## Table 5: Position of developed pressure ulcer

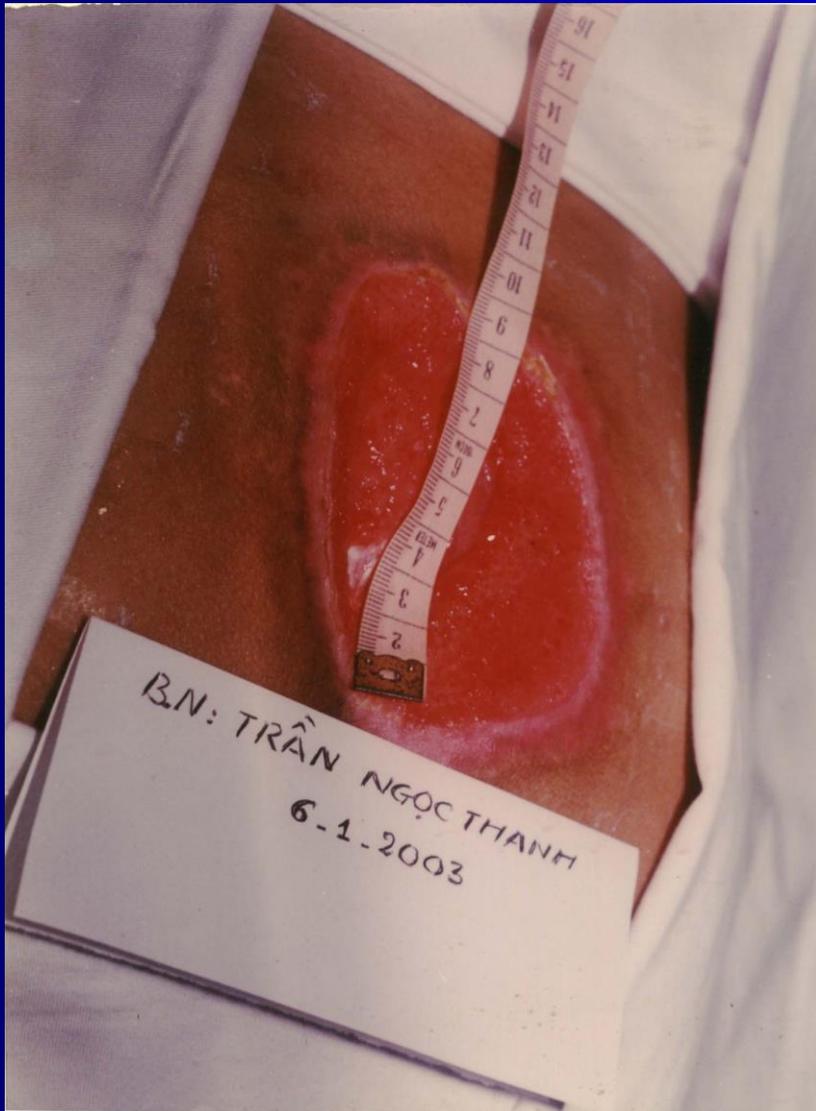
Position	Number	percentage %
Sacrum coccyx	06	40%
Sacrum coccyx and Ischium	07	46.66%
Sacrum coccyx and lateral malleoluses	01	6.67%
Sacrum coccyx, Ischium, malleoluses, trochanter major	01	6.67%
<b>Total</b>	<b>15</b>	<b>100%</b>

- Comment: 40% pressure ulcer developed at sacrum coccyx, 46.6% developed at Sacrum coccyx and Ischium.
- D.H.Linh (2004): 71.1% pressure ulcer developed at Sacrum coccyx.
- N.T.Binh (2004) : 83.34% pressure ulcer developed at Sacrum coccyx.
- Mawson et al (1988): 57% pressure ulcer developed at Sacrum coccyx.
- Vidal & Sarrias (1991) : 21% pressure ulcer developed at Sacrum coccyx, 28% developed at Ischium.

# CONCLUSION:

- Age of SCI : 20-59 occupied **89.29%** (working age).
- Severity of SCI: Complete lesion (ASIA grade A) occupied **35.72%**.
- In population developed pressure ulcer, 40% was ASIA grade A. Of these, **20%** in stage III, **20%** in stage IV.
- Position of pressure ulcer: Sacrum coccyx occupied **40%**, Sacrum coccyx and Ischium occupied **46.66%**

# PICTURES







**Thank you for your attention**