Side Effects from Antituberculosis Drugs Treated for Patients in Taiwan

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Objective

- To prospectively assess the hepatotoxicity of antituberculosis drugs in treating tuberculosis patients in Taiwan.

Materials

- All patients with tuberculosis (TB) receiving antituberculosis treatment in the First Chest Clinic of the National Tuberculosis Association, Taipei (TNTA) during Jan. 2005 and June 2006 were followed up till Jan. 2007.

Methods

- The standard antiTB regimen was 2HRZE/4HRE with fixed dose combination of 3(HRZ) or 2(HR) drugs. EMB will be discontinued whenever INH and RMP are known to be susceptible.
- All patients receiving antiTB treatment had blood test for GOT, GPT and total bilirubin(TBil) before, and 1-2W, 1M, 2M, then every 2M after the initiation of treatment.
- When symptoms suggesting hepatitis occurred or there was elevation of GOT, GPT or TBil, more blood test, including HBsAg, and AntiHCV, and more frequently GOT and GPT will be ordered by the judgement of clinicians.

Results

- 288 patients were collected in the study peirod.
- 51 failed to follow the scheduled blood test due to default or transferred out within the first month of treatment.
- 237 included in the analysis.

Age and sex characters of TB patients excluded and included for analysis

	Excluded N=51, n (%)	Included N=237, n (%)	Total	P-value
Sex				0.89
Male	30 (58.8)	137 (57.8)	167	
Female	21 (41.2)	100 (42.2)	121	
Age (yr)				0.41
< 20	3 (5.9)	10 (4.2)	13	
20-39	11 (21.6)	71 (30.0)	82	
40-59	18 (35.3)	94 (39.6)	112	
>= 60	19 (37.2)	62 (25.3)	81	

Results - Hepatitis

- 16/237 (6.8%) had GOT >225 or GPT > 175 (5X normal upper limit)

	Male	Female	total
Total	9/137 (6.6%)	7/100 (7%)	16/237 (6.8%)
Age (yr)			
< 20	0/4 (0)	0/6 (0)	0/10 (0)
20-39	0/35 (0)	3/36 (8.3%)	3/88 (3.4%)
40-59	5/56 (8.9%)	3/38 (7.9%)	8/94 (8.5%)
>= 60	4/42 (9.5%)	1/20 (5.0%)	5/62 (8.1%)

* All 4 cases with GOT > 225 had also GPT>175

Results

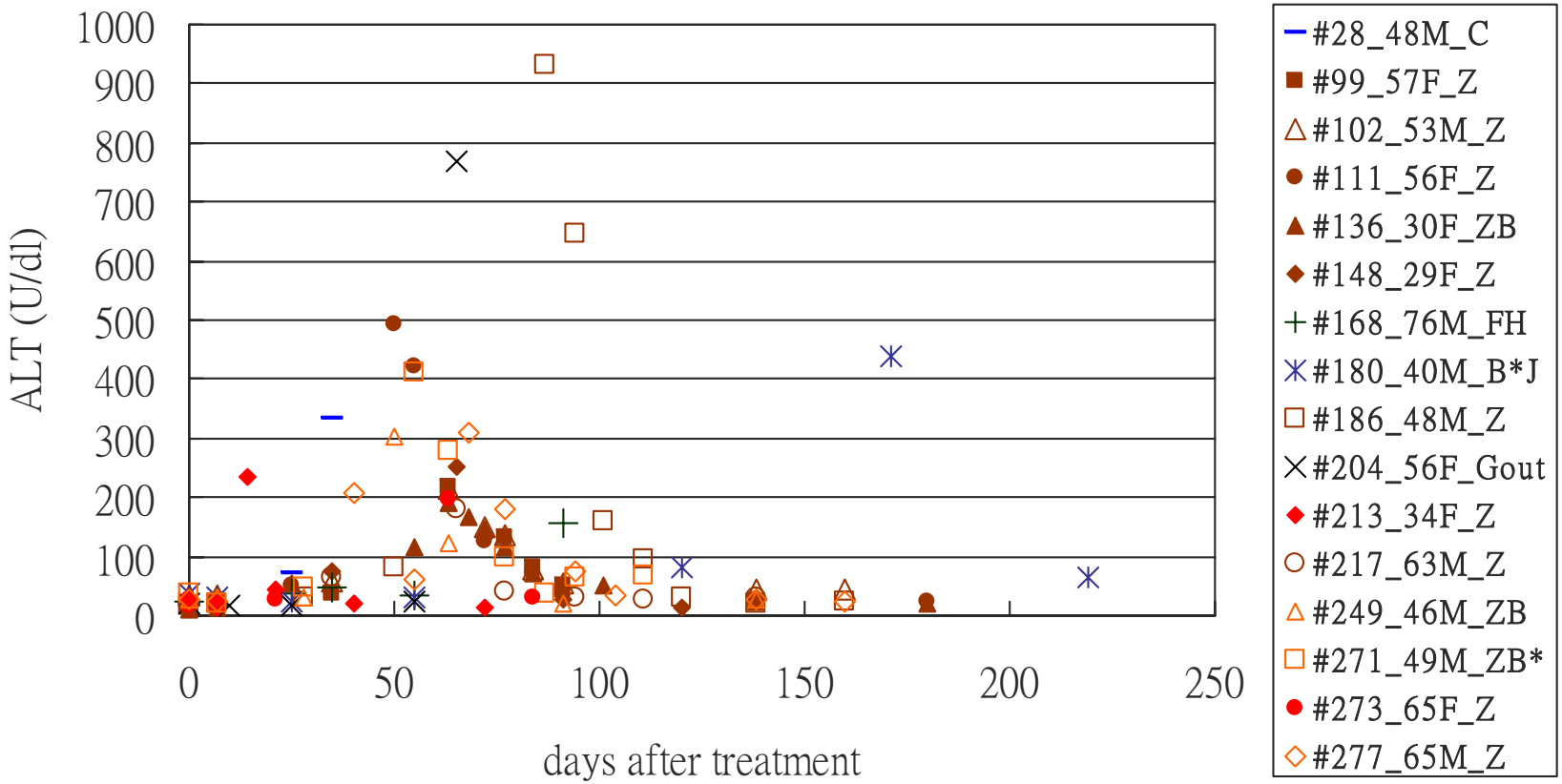
- Twelve patients were PZA induced hepatitis. Their GPT returned normal when PZA was discontinued and remained normal in the later treatment period with INH and RMP.
- One patient had acute exacerbation of hepatits B. His GPT elevation accompanied with jaundice 5m after the initiation of antiTB treatment .
- The other three cases were transferred out and cannot be certain whether the hepatitis was antiTB treatment related. Including one fulminant hepatitis, one hepatitis C and one female with gout and not receiving PZA treatment.

Results – PZA hepatitis

- GOT or GPT > 5X normal

	Male	Female	total
Total	6/137 (4.4%)	6/100 (6%)	16/237 (5.1%)
Age (yr)			
< 20	0/4 (0)	0/6 (0)	0/10 (0)
20-39	0/35 (0)	3/36 (8.3%)	3/88 (3.4%)
40-59	4/56 (7.1%)	2/38 (5.3%)	6/94 (6.4%)
>= 60	2/42 (4.8%)	1/20 (5.0%)	3/62 (4.8%)

GPT levels by days after treatment



Results

- One patient with PZA hepatitis had her GPT marked elevated in the first month of treatment.
- Ten patients had marked GPT elevation at the end of the second month of treatment.
- One retreatment case had GPT elevation at the end of the third month of treatment.

Conclusion

- 5.1% of patients receiving standard 2HRZ(E)/4HR(E) antiTB regimen had GOT or GPT elevated above 5 times normal level during treatment were PZA induced hepatitis.
- Female at the age group 20-39 years has a higher rate of PZA hepatits.
- Most of the PZA hepatitis had marked GPT elevation at the end of 2nd month of treatment.
- Viral and/or other causes of hepatitis unrelated to antiTB medications may contribute to the GPT elevation during antiTB treatment.

Thank you for your attention.