

Antenatal Serological Results in Women from Mainland China

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Introduction

- Antenatal serological tests
 - rubella, syphilis and hepatitis B surface antigen are routinely performed for pregnant local residents
- Starting from 1st Feb 2007, there has been an increasing trend of early booking of obstetric service by women normally residing in Mainland China
- There is accumulating data indicating that this group of women from Mainland China has a pattern of serological results that is different from local residents.



Objectives

- To compare antenatal serological results of pregnant women from Mainland China with that of their local counterparts
- Discuss the implications of such differences.



How

- Antenatal data for the year 2006 and 2007 was retrieved from the corporate laboratory information system databases
- Pregnant women from Mainland China were identified by a specific set of temporary-allocated identity number.
- Proportions were compared by the chi-squared test.
- Continuous data were compared by the t-test.
- The two-tailed P-value of <0.05 indicated significant difference.



Results

- From 2006 to 2007,
 - 8037 pregnant local residents
 - 1066 pregnant women from Mainland China
- Consecutive data were analyzed for:
 - Age
 - Syphilis status
 - Rubella antibody status
 - Hepatitis B surface antigen Status



Age

- Pregnant local residents were significantly older (mean age 31.3) than those from Mainland China (mean age 28.2)($p < 0.01$).

Age	Hong Kong	Mainland	P-value
Mean	31.3	28.2	$<0.001^*$
≤ 20	1.47%	3.28%	$<0.001^{**}$
21-30	39%	60.7%	$<0.001^{**}$
31-40	57.8%	30.9%	$<0.001^{**}$

* t-test; ** chi-sq test



Positive serological test for syphilis

Age	Hong Kong	Mainland	P*
All	0.32%	1.2%	<0.001
≤20	0.8%	0	0.47
21-30	0.255%	1.05%	<0.01
31-40	0.36%	1.88%	<0.001

*chi-squared



Impact: Increased positive syphilis screening results - Mothers

- More Procedures: More confirmatory tests
- More Intervention: Mainly antibiotics treatment.
- More post-treatment tests: Following treatment, serological tests should be performed at monthly intervals until delivery

Work increased by 4X



Impact: increased positive syphilis screening results – Babies

- To address **Congenital syphilis**
- More Intervention: Infants born to seropositive mothers are treated with antibiotics.
- More Follow-up tests: Post-treatment serological tests and clinical assessment, usually serial.

Work increased by 4X



Negative rubella antibody status

Age	Hong Kong	Mainland	P
All	4.22%	16.38%	<0.001
≤20	9.23%	7.14%	0.86
21-30	3.89%	16.6%	<0.001
31-40	4.2%	17.4%	<0.001

*chi-squared



Impact: Negative Rubella Results

- More counseling:
- To instruct: avoid patients who have this illness.
- To instruct: no effective treatment for rubella during pregnancy, nor is there an effective way to prevent rubella in a susceptible woman who was exposed to the illness.
- To explain: vaccine is not recommended during pregnancy
- To explain: The possible risk of vertical transmission
- To explain: pregnancy termination may be needed, especially if primary infection occurs prior to 16 weeks' gestation

Work increased by 4X



Positive hepatitis B surface antigen

Age	Hong Kong	Mainland	P*
All	8.14%	12.75%	<0.001
≤20	6.4%	12.12%	0.001
21-30	8.24%	12.9%	<0.01
31-40	8.14%	12.5%	<0.001

*chi-squared



Impact: Positive hepatitis B surface antigen

- More Intervention at / shortly after birth: Hepatitis B vaccine, HBIG treatment, Complete infant vaccination series at 0, 1-2, 6 months.
- More Follow-up tests: HBsAg and anti-HBs testing of infant at aged 9-15 months.

Work increased by 1.5X



Conclusion

Pregnant women: HK versus Mainland

- There is difference in the serological status of the three infectious disease
- This will derive:
 - more treatment
 - more tests
 - more counseling
 - More follow-up tests



Thoughts

- Residents: Local versus Mainland
- Different population immunization programs
- Immigrants will dilute the population effect of local immunization programs (such as hepatitis B)



Thank you

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