

New Territories West Cluster



Screening for phaeochromocytoma: are we doing it safely and cost-effectively?

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INTRODUCTION & BACKGROUND

1. Phaeochromocytoma is a very rare (0.1-0.6% of hypertensive patients) but important secondary cause of hypertension (1)
2. International guidelines do not recommend screening in all hypertensive patients (2, 3)
3. Indications of screening (1):
 - Hypertension with paroxysmal symptoms (headache, palpitations & sweating)
 - Adrenal incidentaloma
 - Familial syndromes (MEN, Neurofibromatosis-1, Von Hippel-Lindau)
 - Volatile or resistant hypertension
 - Phaeochromocytoma Post-op monitoring
4. Catecholamine secretion by phaeochromocytoma is pulsatile
 - Laboratory recommends to collect 24-hour urine catecholamine on 3 non-stressed days
5. Problems:
 - False positives requiring expensive follow-up investigations, patient anxiety
 - Possibility of missed diagnoses due to inappropriate urine sampling

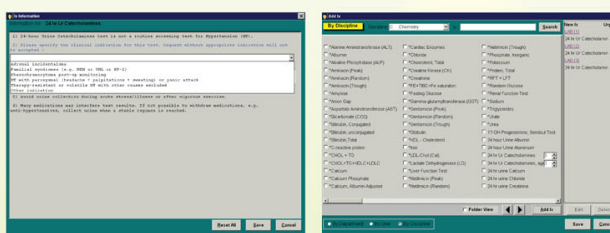
References

1. Lenders JW et al., *Phaeochromocytoma. Lancet. 2005 Aug 20-26;366(9486):665-75*
2. Onusko E. *Am Fam Physician 2003;67:67-74*
3. Chobanian a et al., *Hypertension 2003;42:1206-1252*

CONCLUSION FROM FIRST AUDIT

1. 57% of requests did not follow proper collection method (Fig. 1)
2. 26% of tests were done during acute illness/stress (Fig. 2)
3. 79% of tests were done for routine investigation of hypertension (Fig. 3)
4. 237 patients had to undergo extensive investigations
5. Six phaeochromocytoma were diagnosed (0.4% of all hypertensive patients screened)
6. 20 patients were confirmed obstructive sleep apnoea (8.4% of those with abnormal urine catecholamines)

A new Generic Clinical Request System (GCRS) screen with reminder on proper urine collection of catecholamines has been launched since December 2008



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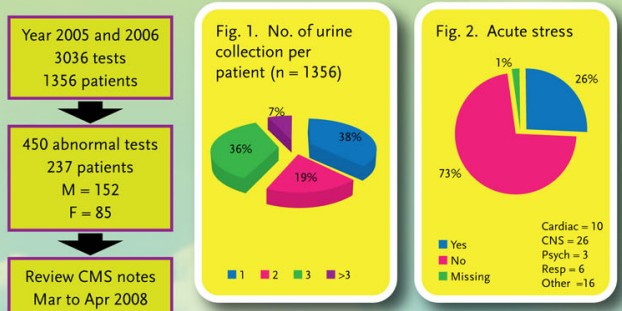
OBJECTIVES

To analyze the practice of screening for phaeochromocytoma in New Territories West Cluster (NTWC)

METHODOLOGY

All laboratory requests for urine catecholamines from January 1, 2005 to December 31, 2006 were retrieved from laboratory information system (LIS). Patients at or above age 18 with one elevated urine catecholamines (adrenaline or noradrenaline) result were included. 94.4% of requests came from Medicine & Geriatrics and Family Medicine. Audit criteria included compliance to proper urine collection, appropriateness of screening, clinical features of confirmed phaeochromocytoma and outcomes of those with elevated urine catecholamines.

RESULTS FROM FIRST AUDIT



RESULTS FROM RE-AUDIT IN APRIL 2010

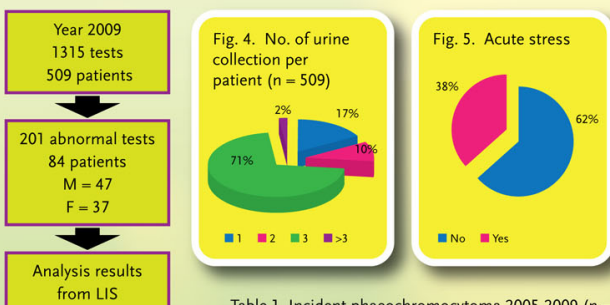
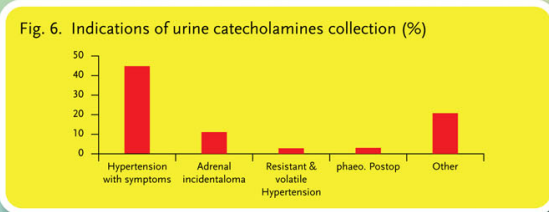


Table 1 Incident phaeochromocytoma 2005-2009 (n = 10)

Year	Age	Sex	Presentation
2005	44	M	symptoms
	52	M	incidentaloma
	41	F	symptoms
2006	63	F	incidentaloma
	49	M	symptoms
2007	57	M	incidentaloma
2008	53	F	incidentaloma
2009	56	M	incidentaloma
2009	52	F	symptoms
	70	M	incidentaloma



CONCLUSION FROM RE-AUDIT IN APR 2010

1. Total number of tests ordered reduced by 14%
2. 73% of urine collections followed laboratory recommendation (Fig. 4)
3. No. of patients requiring further investigations reduced by 30%
4. Incidence of phaeochromocytoma was similar (Table 1)
5. Indications of tests were more rational (Fig. 6)
6. 38% of urine collection were done during acute stress (Fig. 5)