

Chapter 5

Discussion and Conclusion

This chapter includes the discussion of the finding, conclusion of the study as well as limitations and suggestion for further research.

5.1 Discussion

We found from preliminary data analysis that the average age of patients with gout in Nongjik Hospital was approximately 63 years. Most of them were men and rare in premenopausal women. This may be due to impact of estradiol, female hormones can lower serum urate in females, and the serum urate rises after the menopause. It was also found that most of subjects were overweight. These finding were consistent with many studies (Annemans et al, 2008; Chen et al, 2003; Edwards, 2008; Fuldeore et al, 2011; Harris et al, 1995).

The majority of subjects (76%) had HT. This may be due to high levels of uric acid induced a vasoreactive hypertension. This finding was consistent with many studies (Annemans et al, 2008; Chen et al, 2003; Edwards, 2008; Fuldeore et al, 2011; Harris et al, 1995).

The results of this study demonstrate that the prevalence of CKD among gout patients in Nongjik's Hospital, Pattani Province was higher (54.5%, 95% CI =46.6, 62.2) than developed countries. In the USA (Fuldeore et al, 2011) it was found in 12.8% of 3,929 gout patients in a managed care setting. In France, it was reported in 19.7% of 697 subjects in Vivactis tudes cliniques from 2008 to 2009 (Liote et al, 2012). These

differences may be due to small sample sizes, delay of CKD detection or low awareness of CKD in patients with gout.

The gout patients with CKD were more likely to have HT and dyslipidemia than those without CKD. It was also found that subjects with CKD were more uncontrolled serum uric acid level than those non CKD (Fuldeore et al, 2011). The present HT, dyslipidemia and serum uric acid were statistically significant associated with CKD in gout patients. It is consistent with previous studies (Fuldeore et al, 2011; Liote et al, 2012). BMI, present DM, thiazide use and anti-gout agent were not significantly associated with CKD. This may be due to the low prevalence of overweight, present DM and decreasing use of thiazide.

5.2 Conclusion

In this study, approximately 50% of gout patients in Nongjik Hospital, Pattani Province had CKD. Prevention and treatment of HT, dyslipidemia and control serum uric acid in gout patients is important to reduce the risk of CKD.

5.3 Limitations of the study

The limitation of this study was the small sample size and data regarding a 24-hour urine uric acid, creatinine, albumin and protein excretion were not collected. Finally, the cross-sectional design of this study makes it impossible to infer a causal relationship between CKD and associated factors.

5.4 Implementation

This study shows a remarkably high prevalence of CKD (54.5%, 95% CI =46.6, 62.2) among gout patients in Nongjik Hospital. Thus, the early detection of renal impairment is essential and allows appropriate treatment before kidney damage or deterioration manifests itself through other complications. It may help prevent or delay the progression of CKD.

The administrators of the Nongjik Hospital realize the significant of this study, and then they take this result into practice by setting the policies for caring the CKD's patient. The implementation of this research findings into clinical practice in Nongjik Hospital as follows:

1. The screening form of gout patients with CKD is assigned, this form has attached at the final page of OPD card by using the index with different colors in order to show the degree of severity.
2. The patient with CKD is identified in services program of the hospital to notify the physician, nurse, pharmacist, and other healthcare professional.
3. The patient with CKD is identified in a prescription for double-checking by pharmacist.
4. The Nongjhik Hospital install alarm signal for observation of drug alert in CKD.
5. The individual patients' prescription is assessed before seeing the physician.
6. The patient with CKD receives anti-gout drug treatment with doses adjusted according to creatinine clearance.

7. A program for calculation an eGFR is installed at the laboratory department in order to cover all patients who have been ordered by physician for checking the serum creatinine level.
8. The CKD patients with stage 4-5 are referred to see the nephrologist at the provincial hospital.
9. The progress of the renal function in gout patients with ESRD are reported to the physician.
10. Multidisciplinary care for patients with CKD is set up.
11. The conference of kidney disease is conducted to the medical staffs, both inside and outside the Nongjok Hospital.

The application of this research into practice make all patients who had CKD received dose adjustment according to renal function. Moreover, the guideline for gout patient can be as a model to other patients, such as hypertension, DM, asthma and COPD, etc.

5.5 Recommendations for further researches

Future research should be conduct in gout patients in all primary hospitals of Pattani Province or in the three Southern provinces of Thailand, Yala, Pattani and Narathiwat in order to identify the severity of their problems. Furthermore, the future studies should be taken blood test and urine test within 24 hours for measurement creatinine, albumin and protein in urine. Moreover, to check a blood test for finding the BUN, creatinine and level of cholesterol need to be measured in order to make a more accurate assessment of CKD.