CHAPTER V

DISCUSSION, CONCLUSION AND RECOMMEDATION

Discussion

In this study the epidemiologic data showed that boy had higher rate of this kind of fracture because of higher activity level. The posteromedial displacement and left side fracture, were dominant in both groups. Anterior interosseous nerve injury was common (20%) and comparable with the other articles.

Both treatments gave us the excellent result even in the failures of closed reduction in two cases of group A. The union rate of both groups were 100%.The range of motion were good within 12 weeks in every case. Both treatments can be used as standard treatment considering deformity, range of motion, satisfaction, complications, etc.

In group A , closed reduction and pinning, the surgeon should have good experiences in pediatric orthopedic surgery because this procedure is difficult in reduction the fracture and fixing it without ulnar nerve injury. In this study of 10 cases, two first cases had temporary ulnar nerve injury and resolved completely , two cases failed from closed reduction with successful result after open reduction.

If the incidence of ulnar nerve injury and failure rate of close reduction is very high for some centers, the treatment of closed reduction and pinning should be avoided.

In group B open reduction and pinning, the surgeon also should have experience enough to have good result. In this study the approach was lateral

and it was adequate to get anatomical reduction . The 3 K-wires also give stable fixation in clinical and biological study.

The cost of closed reduction is cheaper than open reduction except that the fluorescopy is very expensive and may not be available in the small hospital where the incidence of supracondylar fracture is very low and no other indication of usage. The open reduction can give equal result and cheaper in considering the average cost of fluoroscopy in small hospital.In this study the treatment by using the open reduction and pinning even gave the good results but the children and parents not only have to pay more in money but also have to pay more in time, operative risk, scar, infection risk etc, especially emotion which is intangible.

The sample size was small 20 cases but big enough to show the statistical difference of the total cost. If we continue to study the outcome in difference of the Baumann's angle. The statistical and clinical significance may not be found because of the small difference from good result is achieved.

Conclusion

In closed totally displaced supracondylar humeral fracture in children less than 13 years old. The treatment by closed reduction and pinning compared with open reduction and pinning produced good results in all cases with equal result and no statistifical significance in demographic data, Baumann's angle difference, range of motion and satisfaction score.

There was statistifical significance in total cost, providers' perspective and parents' perspective. Group A was cheaper than group B (1,409.92 baht in provider's perspective and 3,425 baht in parents' perspective). Except when the fluoroscopic usage is 318.4 time/year (providers' perspective). The total cost of both group will be equal.

Recommendation

The closed reduction and pinning should be done first. If the closed reduction fail to achieve acceptable reduction then open reduction can be done at the same time.

In a small hospital with low level of using fluoroscopy, it is not necessary to buy the new one to treat this fracture. We can treat by open reduction which will also end up with good result.