A study to evaluate the role of life line in the actual survival of surgically critical ill patients

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ABSTRACT

Introduction: Surgical critical ill patients are studied with the various perspectives such as diseases, management of such patients and palmistry etc. It is observed from the existing literature that role of palmistry in surgery is in initial stage and very few studies are available in medical research related to it. This observation leads the way to conduct a study on palmistry. The present study on life line- a part of palmistry is designed to evaluate length of life line and interruptions on life line to find relation with actual survival of surgical critical ill patients.

Material and Methods: The present study was conducted in the Department of General Surgery, Dr. S. N. Medical College, Jodhpur and associated hospitals along with 200 patients. Any break in the life line was noted down with the photographs of both hands. The age at death was taken from the hospital notes. Results were calculated after completion of the study. The length of the lifeline which was based on the technique used by Newrick and colleagues (1990) was measured of both hands with pre-stretched piece of string and this measurement was converted into millimeter using a ruler. During the measurement, the hand was opened in a standard posture and photograph of both hands were taken with green background.

Results: This study found statistically insignificant relation between predictive age according to Newrick method and outcome of treatment. Results were also statistically insignificant in relation to predictive age according to Newrick method and interruptions.

Conclusion: This study shows that there is no correlation of life line with mortality and morbidity in surgically critical ill patients. Further studies are required as mortality and morbidity are governed by many factors.

1.1 INTRODUCTION

Palmistry, or chiromancy originated from Greek word *kheir* means hand and *manteia* means divination. It refers to study of palm to foresee future. It is also known as palm reading or chirology. It is practiced all over the world with some cultural difference. History of it can be divided into two parts for the study purpose namely
  a) Ancient Palmistry
  b) Modern Palmistry

1.1.1 Ancient Palmistry

Palmistry was a practice common to many different places on the Eurasian landmass [1]. It had been practiced in the cultures of India, Tibet, China, Persia, Sumeria, ancient Israel and Babylonia. The acupuncturist Yoshiaki Omura described its roots in Hindu astrology (known in Sanskrit as jyotish), Chinese Yijing (I Ching), and Roma (Gypsy) fortune tellers[2]. Several thousand years ago, the Hindu sage Valmiki thought [3] to have written a book comprising 567 stanzas, the title of which translated in English as The Teachings of Valmiki Maharshi on Male Palmistry [3,4]. From India, the art of palmistry spread to China, Tibet, Egypt, Persia and to other countries in Europe [2,5].From India, palmistry progressed to Greece where Anaxagoras practiced it[2]. Aristotle (384–322 B.C.E.) discovered a treatise on the subject of palmistry on an altar of Hermes, which he then

presented to Alexander the Great (356–323 B.C.E.), who took great interest in examining the character of his officers by analyzing the lines on their hands [6].

During the middle Ages the art of palmistry was actively suppressed by the Catholic Church as pagan superstition. In Renaissance magic, palmistry (known as "chiromancy") was classified as one of the seven "forbidden arts," along with necromancy, geomancy, aeromancy, pyromancy, hydromancy, and spatulamancy (scapulimancy) [7].

1.1.2 Modern Palmistry

Palmistry experienced a revival in the modern era starting with Captain Casimir Stanislas D'Arpentigny's publication La Chirognomie in 1839[5]. The Chirological Society of Great Britain was founded in London by Katharine St. Hill in 1889 with the stated aim to advance and systematise the art of palmistry and to prevent charlatans from abusing the art [8]. Edgar de Valcourt-Vermont (Comte de St Germain) founded the American Chirological Society in 1897.

A pivotal figure in the modern palmistry movement was the Irish William John Warner, known by his sobriquet, Cheiro. After studying under gurus in India, he set up a palmistry practice in London and enjoyed a wide following of famous clients from around the world, including famous celebrities like Mark Twain, W. T. Stead, Sarah Bernhardt, Mata Hari, Oscar Wilde, Grover Cleveland, Thomas Edison, the Prince of Wales, General Kitchener, William Ewart Gladstone, and Joseph Chamberlain. So popular was Cheiro as a "society palmist" that even those who were not believers in the occult had their hands read by him. The skeptical Mark Twain wrote in Cheiro's visitor's book that he had "…exposed my character to me with humiliating accuracy." Edward Heron-Allen, an English polymath, published various works including the 1883 book, Palmistry – A Manual of Cheirosophy, which is still in print [5, 9]. There were attempts at formulating some sort of scientific basis for the art, most notably in the 1900 publication "The Laws of Scientific Hand Reading" by William G. Benham [10].

In order to reach to the proper understanding of palmistry and science, the available researches have been reviewed in the following section:

The first work on palmistry and science was conducted by Newrick and colleagues (1990) [11] in which they studied relationship of predicted age with actual age of 100 patients of autopsies and found significant relationship between lifeline and outcome of autopsies. This study found great importance in media and research world. Mardia (1990) [12] re-examined this study of longevity and life-line adopting same methodology used by Newrick and colleagues (1990). They analysed statistical soundness of this study and reached on the conclusion that earlier study not only provides theoretical evidence but also has statistical soundness. Mensvoort (2006) [13]examined the length of life-line and longevity using same methodology adopted by Newrick and colleagues (1990). Seal (2009) [14] studied potential relationship between the length of the lifeline and longevity. He found positive correlations between length of life-line and age at death for both hands i.e. left as well as right hand.

It is clear from the above analysis of studies that these studies examined only one aspect of the life-line i.e. length with longevity of a person ignoring interruptions and marks on it which questions authenticity of the results. It can reflect the major life changes, including cataclysmic events, physical injuries and relocation. Even W. G. Benham also considers it as the quality of 'wire' to flow the current. Recently, these aspects of life line are discovered in various researches which are presented as follows:

Mehmood and colleagues (2011) [15] presented a comparative study to analyze popular belief of relationship between length of life-line and longevity using sample size of hundred. They found no relation with hand lines of life of critically ill patients of surgery. They found that patients having break lines were dead as well as patients having no breaks in life line. It was also found that normal surgical patients had more breaks in life-line than critically ill patients under study. Mensvoort (2012) [16] evaluated correlation between longevity and length of lifeline with the help of two studies named Newrick and colleagues (1990) and Mardia (1990). He also analysed results of these studies with the help of the life-line of Cheiro based on his hand. He found no relation between the both.

It is observed from the existing literature that surgical critical ill patients are studied with the various perspectives such as diseases, management of such patients and palmistry etc. It is also

observed that role of palmistry in surgery is in initial stage and few studies are available in medical research related to it. This observation of existing literature opens an area to conduct a study on palmistry. To research this area, the present study on life line- a part of palmistry is designed to evaluate length of life line and interruptions on life line to find relation with actual survival of patients.

1.2 MATERIALS AND METHODS

The present study was conducted in the Department of General Surgery, Dr. S. N. Medical College, Jodhpur and associated hospitals along with 200 patients, after having ethical approval from ethical committee. This study had two objectives such as:

- To evaluate predictive value of life line assessed by Newrick method in determining chance of survival in surgically critical ill patients in age 18-60 years in a range of +/- 3 years; and
- To evaluate predictive value of life line interruptions assessed by Newrick method for the prediction of surgically critical health related issues in age 18-60 years.

Patients having penetrating injury to neck, chest, abdomen, pelvis, Patients having more than 50% burns, Patients falling from more than 50 feet height, Patients having blast injury and after admission requiring two or more than two major surgical interventions to save life and Patients having more than 4 blood transfusions for resuscitation or needed ventilator support in ICU were included to study for the critically ill patients at the time of admission. All the patients were assessed for their predicted age of death by Newrick method and if the predicted age of death was < +/- 3 years of chronological age, the patient was included in the final cohort. Patients having amputation of hands and Burn or crush injury to the hands in which hand lines was not recognizable were excluded from the study.

A ruler, a pre-stretched string, green cloth for background and a camera used as materials in the study. Daily progress, blood transfusion, surgical procedures, admission in ICU and ventilator support, if required was noted till the patients were discharged or died. Any break in the life line was noted down with the photographs of both hands. The age at death was taken from the hospital notes. Results were calculated after completion of the study.

The length of the lifeline was measured on the basis of technique used by Newrick and colleagues (1990) of dominate hand with pre-stretched piece of string and this measurement was converted into millimeter using a ruler. This prediction was in line with the work of Cheiro (1866-1936). During the measurement, the hand was opened in a standard posture and photographs of both hands were taken with green background.

Length of life line was calculated as follows:

Actual length of life line (in millimeters)
Maximum length of life line of dominated hand (in millimeters)

In this formula, ratio was used to calculate length of life line to remove the effect of hand size. Removal of effect of hand size was necessary as long hand had long life line and short hand had short life line when it was measured in millimeter.

1.3 RESULTS AND DISCUSSION

Table 1 shows results of OLS regression ran for outcome of the treatment and length of life line which was the first objective of the study. There was no relation found between the outcome of the treatment and length of life line. Results remained same after category wise outcome into discharged and expired patients. Figure 1 and 2 depict the same results by showing flat regression line.

As results were insignificant so the finding from this was that outcome of the treatment was not predicted by the length of life line calculated by Newrick and colleagues' method. These results supported the theory of **Wilson and Mather** and **Lukas and colleagues** [17] but not of **Newrick and colleagues.**

Table 1: Results of OLS regression between outcome of the treatment and length of life line

Correlation	r value	p value
Length of life line vs. Discharged age	0.083	0.388

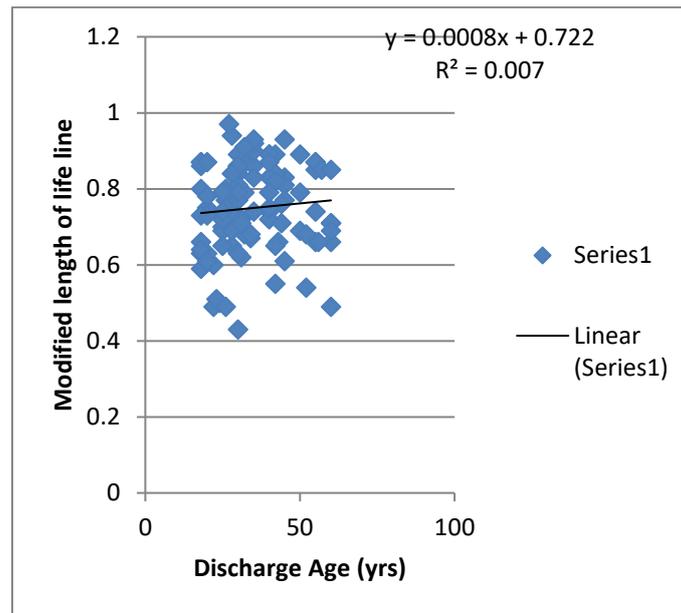| Length of life line vs. Expired age	0.049	0.638

Figure 1: Results of OLS regression between discharged patients and length of life line.
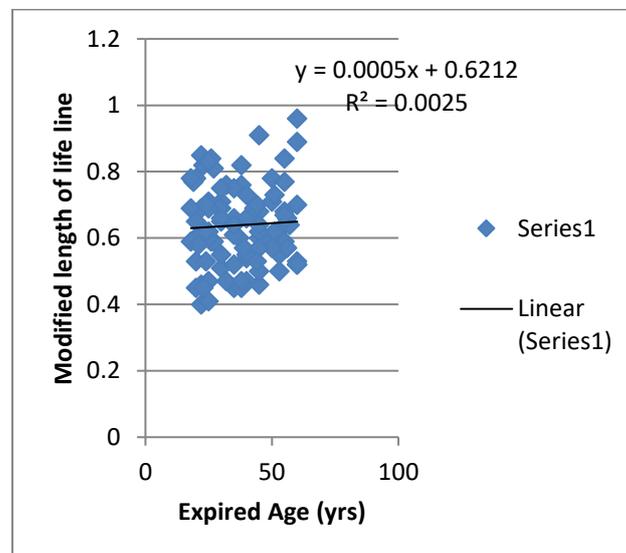

Figure 2: Results of OLS regression between expired patients and length of life line.

In their theory Newrick and colleagues used the same method as used in the current study to correlate longevity and the length of the life line with 100 cadavers and found positive correlation between the two. Lucas and colleagues also used Newrick method with little modification to find correlation between longevity and length of life line using 60 cadavers and reached on the conclusion that there was insignificant relation between the two. There were two differences in these studies. The First difference between Newrick study and the current study was that earlier used cadavers and later used living persons as sample. The other difference between the two was that later had proper history of diseases of the sample but not by the earlier. The current study used 200 samples of both sexes of living patients at the time of treatment which came under the inclusion criteria of the study. This study found no correlation between the outcome of the treatment and the age calculated from Newrick method.

Table 2 shows the results of second objective of the study which was to examine the relation between interruptions in the life line and outcome of the treatment and found statistically insignificant relation between the two. Table 2 shows results of OLS regression between hospital stay and

interruptions in life line. As P value (0.258) was more than 0.005 (5% significance level) so null hypotheses was rejected and found that there was an insignificant relation between interruptions in life line and hospital stay. This is also depicted from the figure 3 as line is flat which indicates insignificant relation between the two.

Table 2: Results of OLS regression between hospital stay and interruption in life line

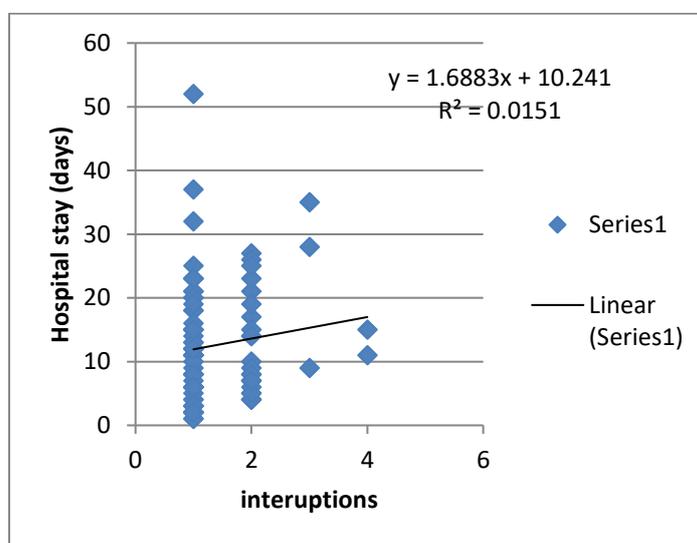| Correlation	r value	p value
Interruptions vs. Hospital stay (days)	0.123	0.258

Figure 3: Results of OLS regression between hospital stay and interruption in life line

Statistical methods used in this study were in line with the study of Newrick and colleagues, Lucas and colleagues and Wilson and Mather. Method used to calculate length of life line was similar to Newrick and colleagues and was different from Lucas and colleagues. The finding of the study further had results against old testament which says " Length of days is in her right hand...."(proverb iii,16) and William Blake's "Infinity in the palm of your hand".

Newrick and colleagues used ratio of actual life line and modified life line whereas Lucas and colleagues used ratio of actual life line and length of hand. In the present study, dominate hand of patients was used to study life line which was similar to the study of Newrick and colleagues and was contrary with the study of Lucas and colleagues in which they examined both hands of both sexes. Newrick and colleagues didn't segregate sexes for the study purpose but Lucas and colleagues did. In spite of differences in the calculation of life line with Lucas and colleagues and similarity with Newrick and colleagues, this study validated the claim of Mehmood and colleagues, Lucas and colleagues and Wilson and Mather of statistically insignificant relation between the longevity and life line.

This study was more representative of Cheiro's original theory than study of Newrick and colleagues by including patients suffering from diseases. Cheiro explained in his original work that the length of life line indicated natural life expectancy, apart from accidents.

1.4 CONCLUSION

Life line is no doubt another flexion crease on palm if we see it biologically which is subject to biological variation resulting differences in the length between individuals. It is also a fact that longevity appears to be a result of interplay between genetic and environment influences. Cheiro's theory is based on the belief that longevity is subjected to genetic influences and on the basis of this belief, it can be concluded that Cheiro's theory is only applied to natural life expectancy not accidental deaths which are the results of environments influences. In the light of this interpretation,

we find validation of the results of our study that there is no statistical significant relation between length of life line and outcome of the treatment has given to the surgical critical ill patients.

In the light of lacking any scientific proof, it is said that treatment of surgically critical ill patients must rely on proper medicine than life line for the betterment of the patients. This study contradicts with earlier studies due to improved sample criterion which further motivate researchers to conduct study with more sample improvements.

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