

Research Article

A comparative study of Hematological profile of Cupping (Hijamah) versus venous blood

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[Received-11/02/2015, Accepted-21/02/2015]

ABSTRACT:

The Unani system of Medicine - one of the ancient systems is now gaining popularity. This system includes three basic methods of treatments; these are Regimenal therapy, diet-o-therapy and pharmacotherapy. Regimenal therapy includes Hijamah (dry & wet cupping), massage, venesection, leeching and cauterization. "Hijamah" has originated from the Arabic word "Hajm" meaning "sucking". It is of two types, Hijamah-bila-shurt (dry cupping) and Hijamah-bi's-shurt (wet cupping). In the Wet cupping blood is sucked after applying cups to specific areas of the body. The cupping therapy has also been used in Chinese System of Medicine as a preventive, promotive, curative and restorative therapy. Hence this therapy needs a more convincing scientific base. Thus the aim of this study was to compare hematological profile of cupping blood with venous blood.

Method: Hematological investigations were done on 40 blood samples taken from normal, healthy individuals (20 paired samples of Hijamah blood and venous blood of each subject). Consent form was filled and permission was taken from the ethics committee.

Result: Data was collected according to prestructured questionnaire and statistical analysis was done using SPSS software. Analysis of the data showed significant differences in many of the hematological factors between the cupping blood and venous blood.

Conclusion: As per the result we can allege that Hijamah is not just a simple mechanical technique of withdrawing blood, but is a comprehensive, curative Regimenal therapy.

Keywords: Unani System of Medicine, hematological profile, Hijamah blood, venous blood.

INTRODUCTION:

Health and disease are inseparable part of human life. Since ancient time human beings have tried to maintain health and cure diseases by various means and this need led to the evolution of various medical system. These systems comprise organized medical wisdom which is based on different philosophies of their own. Examples are Unani, Ayurveda and Homeopathy system of medicine. Unani System of Medicine explains various aspects of the human body, health and disease satisfactorily.

Unani System of Medicine:

In the Unani System of medicine for restoration of health three basic methods of treatments are provided. These are Regimenal therapy, Diet-otherapy, and Pharmacotherapy¹. Regimenal therapy is widely adopted for management of various diseases. It includes 'Hijamah' (dry & wet cupping), massage, venesection, leeching and cauterization^{2,3}. 'Hijamah' has originated from the Arabic word "Hajm" meaning 'sucking'⁴. It is a method of relieving local congestion by applying a partial vacuum that is created in a cup(s), either by heat or by suction. In the Wet cupping blood is sucked after applying cups to specific areas of the body⁵.

Historical highlights of cupping:

The earliest record of cupping is in the Ebers Papyrus, one of the oldest medical textbooks in the world (1550 B.C.)⁶ however, it is believed that the practice dates back to 3000 B.C. Evidence exists that in China the practice of cupping exists from the year 281 AD⁷. In china it was an ancient Taoist medical practice and was widely used in the courts of Imperial China during those times. Its administration was first recorded by Ge Hong, in an ancient tract called Handbook of Prescriptions for Emergencies. In ancient Greece, Galen and Hippocrates (361 B. C.) ,also greatly advocated cupping. Hippocrates - the Father of Medicine, recommended cupping for the treatment of angina, menstrual irregularities and other disorders. In Egypt cupping was the remedy not only for every

type of disease, but also for preserving health. The British cupper Samuel Bayfield (1839) wrote: "Hippocrates was a minute observer, and has left us some striking remarks on the shape and application of the cups. He recommends that they should be small in diameter, conical in shape, and light in their weight, even when the disease for which they are applied is deeply seated"⁸. From Egypt it was transferred to the Greeks. It is found that natives of America, India, New Holland, Japan and China have long practiced cupping. This method in multiple forms spreads into medicine throughout Asian and European civilizations. For thousands of years all medical professionals have distinguished two types of cupping – dry and wet⁹. While Italian physicians favored dry cupping, European and American doctors used wet cupping, which was widely used in western hospitals till 1832¹⁰.

While the history of wet cupping may date back thousands of years, the first documented uses are found in the teachings of Prophet Muhammad (p.b.u.h.)¹¹. Various Hadith are present in reference to this therapy. *The Prophet (PBUH) explained that : "The best medicine with which you treat yourselves is Hijama, or it is one of the best of your medicines," (Reference: Al Bukhari, 5371).*Hence Hijamah has strong connotation with Islam, as a result the practice of cupping therapy has survived in Muslim countries.People of Islamic country adopt this therapy on religious ground, so to popularize the efficacy and benefits of this therapy in general population and to other medical faculties' standardized scientific evidence has to be produced. Hence a scientific clinical study of Hematological profile and its implications on Hijamah blood versus venous blood was carried out.

MATERIAL AND METHODS:

Materials (Sample size, study design and participants): Sterilized cupping sets, 11 No. surgical blades, antiseptic lotions, disposable

gloves, cotton swabs, herbal anticoagulant powder, 2 ml disposable syringes, surgical spirit and emergency medical kit.

Twenty healthy male individuals between the age group of 18 to 50 years participated in the study at Herbs and Hakim-A Unani Hospital and Research Center, 134 M. G. Road, Camp, Pune, Maharashtra, India. Consent form was filled and institutional ethical committee permission was taken. Venous and 'Hijamah' blood (blood collected from 'Hijamah' site) was collected during the month of December 2012 between 10.00 a.m. to 4.00 p.m. on 17th, 19th and 21st of the lunar month, these dates coincide with 18th, 20th and 22nd December 2012 on Tuesday, Thursday and Saturday. Patients were asked to be empty on stomach for two hours prior to 'Hijamah' procedure.

METHODS:

Collection of venous blood: Before 'Hijamah' therapy 1 ml of venous blood was collected in bulb soaked with K3EDTA in order to assay hemoglobin, total leukocyte count and differential leukocyte count and platelet count.

Hijamah procedure: After the collection of venous blood, the procedure of Hijamah was carried out. Each Hijamah procedure lasted about 25 minutes and was conducted in the following steps:

1. 'Sunnah' point was selected at the back just between the two scapulas (bounds of T2-T5 Vertebrate) and the area were disinfected with spirit swab.
2. Primary sucking: The cup was placed on the selected site and the air inside the cup rarified via manual suction. The cup clings to the skin and was left for a period of 10 Minutes or till the appearance of erythema and congestion.

3. Scarification: Superficial incisions are made on the skin using the 'multiple superficial Incision' technique with sterile surgical blade No 11. Incisions were taken along the length of muscle fibers to avoid muscle fibers cutting & scar marking.

4. Bloodletting: A cup coated with K3EDTA was placed on 'Sunnah' point in order to get anti-coagulated blood to assay hemoglobin, total leukocyte count and differential leukocyte count.

5. Removal of cup: The cup was removed after 10 minutes; and the site was cleaned and sprinkled with herbal anticoagulant powder.

Hematological testing of Hijamah blood: The blood samples were immediately sent for hematological testing. Hemoglobin was estimated using Drofkin's method. Total WBC count and Platelet count were analyzed by manual method, while the Differential WBC count, i.e. Lymphocytes, Monocytes, Eosinophils and Neutrophils count was done using Leishman's stain. The investigations were done by qualified, trained personnel in a recognized laboratory.

Statistical Analysis:

The data collected was scrutinized and systematically organized. Analysis of data was done using SPSS statistical software by statistical professionals. Data was presented in the form of appropriate tables. Hematological parameters of venous and Hijamah blood was carried out using Paired t-test. Data were prepared as Mean + SD. p value < 0.05 is considered statistically significant and less than 0.01 is considered as highly significant. The tables and their interpretation are presented as follows.

OBSERVATION:

Comparison of Hematological Parameters of venous blood and Hijamah blood

Table No.1: Comparison of hemoglobin and platelet count in venous and Hijamah blood.

Sr. No	Name of the Patient	Age in years	Hb gm/dl		Platelet count/cmm	
			V	H	V	H
1	Mr. Noman Shaikh	19	12.1	13.7	208,000	255,000
2	Mr. Sufiyan Khan	23	14.4	12.4	262,000	160,000

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3	Mr. Abdul Sayed	33	14.6	15.6	264,000	160,000
4	Mr.Shadab Shaikh	24	12.9	13.7	245,000	264,000
5	Mr.Abdullah	24	14.1	15.5	200,000	250,000
6	Mr.Salman Attar	25	15.0	14.8	244,000	170,000
7	Mr.Zohaib	25	14.5	14.0	258,000	180,000
8	Mr.Khan Salman	27	15.1	14.0	248,000	170,000
9	Mr.Nilesh	27	14.1	13.6	205,000	181,000
10	Mr.Zaid Motiwala	27	15.5	14.9	234,000	154,000
11	Mr.Farhan	27	12.5	15.5	260,000	300,000
12	Mr.Mudassir	28	11.0	13.3	201,000	244,000
13	Mr.Mohd.Ikhlal	28	12.3	14.3	265,000	185,000
14	Mr.Sameer Advocate	29	13.8	10.9	210,000	160,000
15	Mr.Mohd Asif	29	13.6	12.7	230,000	200,000
16	Mr.Asim Amin	30	14.9	13.5	255,000	175,000
17	Mr.Parvez	30	12.7	14.5	220,000	155,000
18	Mr.Nikhil	31	11.6	15.3	262,000	201,000
19	Mr.Aqeel Khan	32	13.3	14	202,000	102,000
20	Mr.Imran	34	15.0	15.4	230,000	190,000
21	Mr.Nadeem	35	14.5	14.0	235,000	185,000
22	Mr.Sayed Ali	38	13.2	14.4	238,000	263,000
23	Mr.Shakeel Ahmad	49	12.4	15.4	221,000	248,000
	Mean		13.6	14.1	234700	264400

V = Venous blood H= Hijamah blood,Hb=Haemoglobin

Table No.2: Comparison of total WBCs count and differential count in venous blood and Hijamah blood

Sr. No	Name of the Patient	Total WBC count/cmm		N %		L %		M %		E %		B %	
		V	H	V	H	V	H	V	H	V	H	V	H
1	Mr.Noman Shaikh	10200	11400	74	76	24	22	01	01	01	01	00	00
2	Mr.Sufyan Khan	11200	10100	48	56	48	42	01	01	03	01	00	00
3	Mr. Abdul Sayed	11200	10100	56	52	42	44	01	02	01	02	00	00
4	Mr.Shadab Shaikh	11200	12400	55	50	43	48	01	01	01	01	00	00
5	Mr.Abdullah	10200	12000	49	44	48	52	01	02	02	02	00	00
6	Mr.Salman Attar	11200	11000	50	45	48	52	01	01	01	02	00	00
7	Mr.Zohaib	12100	11900	76	70	22	28	01	01	01	01	00	00
8	Mr.Khan Salman	11300	9800	58	66	38	32	02	01	02	01	00	00
9	Mr.Nilesh	9200	8100	56	72	40	26	02	01	02	01	00	00
10	Mr.Zaid Motiwala	11000	9600	58	66	40	32	01	01	01	01	00	00
11	Mr.Farhan	12100	8800	56	48	42	50	01	01	01	01	00	00
12	Mr.Mudassir	11200	11900	49	45	49	53	01	01	01	01	00	00
13	Mr.Mohd.Ikhlal	12000	11600	56	70	42	28	01	01	01	01	00	00
14	Mr.Sameer Advocate	11000	9500	56	55	42	43	01	01	01	01	00	00
15	Mr.Mohd.Asif	11500	10500	48	49	50	48	01	01	01	02	00	00

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16	Mr.Asim Amin	8400	7000	58	56	39	40	01	03	02	03	00	00
17	Mr.Parvez	11100	7100	76	74	22	24	01	01	01	01	00	00
18	Mr.Nikhil	12100	11800	77	70	21	27	01	01	01	02	00	00
19	Mr.Aqeel Khan	8600	7000	62	53	36	44	01	01	01	02	00	00
20	Mr.Imran	11400	9900	50	46	49	52	00	01	01	01	00	00
21	Mr.Nadeem	10800	8700	58	50	39	48	01	01	02	01	00	00
22	Mr.Sayed Ali	11600	12900	75	55	23	43	01	01	01	01	00	00
23	Mr.Shakeel Ahmad	11100	12000	75	79	23	19	01	01	01	01	00	00
	Mean	10940	10220	59.8	58.4	37.8	39	1.0	1.1	1.3	1.35	00	00
								4	7				

V = Venous blood, H= Hijamah blood,

N=Neutrophil,L=Lymphocyte,M=Monocyte,E=Eosinophil,B=Basophil

Table No.3: Evaluation of the effects of cupping on hematological Parameters of venous blood and Hijamah blood:

FACTOR	FROM	NUMBER	MEDIAN	MEAN	SD	T VALUE (paired t-test)	P VALUE
Hemoglobin gm / dl	Vein	23	13.8	13.6	1.25	-1.51	0.145
	Hijamah	23	14.0	14.1	1.15		
Platelet Count/cmm	Vein	23	235000	234700	22670	-0.453	0.655
	Hijamah	23	264400	264400	31650		
WBC Count / cmm	Vein	23	11200	10940	1016	2.38	0.027 *
	Hijamah	23	10100	10220	1795		
Neutrophils (%)	Vein	23	56.0	59.8	10.2	0.744	0.465
	Hijamah	23	55.0	58.6	11.4		
Lymphocytes (%)	Vein	23	40.0	37.8	10.1	-0.734	0.471
	Hijamah	23	43.0	39.0	11.1		
Monocytes (%)	Vein	23	1.00	1.04	0.367	-1.00	0.328
	Hijamah	23	1.00	1.17	0.491		
Eosinophils (%)	Vein	23	1.00	1.30	0.559	-0.272	0.788
	Hijamah	23	1.00	1.35	0.573		

p value < 0.05 is considered statistically significant and less than 0.01 is highly statistically significant

*Indicates statistically significant difference.

RESULT:

Total 23 healthy individuals between nineteen to forty nine years age group participated in the study in which 52.2% subjects belong to 19 years of age, 43.5% belong to 29 years of age group while 4.3% belong to 49 years of age group. Table No.3 shows the Mean value of hemoglobin in venous blood is 13.6 with SD 1.25, whereas the Mean value of

hemoglobin in Hijamah blood is 14.1 with SD 1.15. The p value is 1.145, which is statistically insignificant. Table No.3 also reveals Mean platelet count in venous blood is 2,34,700 with SD 226670 and the Mean platelet count in Hijamah blood is 2,64,400 with SD 31650. The p value is 0.655 which is statistically insignificant. In Table

No.3 the Mean WBC count in venous blood is 10940 with SD 1016 versus the Hijamah blood, in which the Mean WBC count is 10220 with SD 1795. The p value for the WBC is 0.027 hence the result is statistically significant. In Table No.3 the Mean Neutrophils count in venous blood is 59.8 with SD 10.2 versus the Hijamah blood, in which the Mean Neutrophils count is 58.6 with SD 11.4. The p value for the Neutrophils is 0.465 hence the result is statistically insignificant. In Table No.3 the Mean Lymphocyte count in venous blood is 37.8 with SD 10.1 versus the Hijamah blood, in which the Mean Lymphocyte count is 39 with SD 11.1. The p value for the Lymphocytes is 0.471 hence the result is statistically insignificant. Table No.3 shows the Mean Monocytes count in venous blood 1.04 with SD 0.367 versus the Hijamah blood, in which the Mean Monocytes count is 1.17 with SD 0.491. The p value for the Monocytes is 0.328 hence the result is statistically insignificant. Table No.3 shows the Mean Eosinophils count in venous blood 1.3 with SD 0.559 versus the Hijamah blood, in which the Mean Eosinophils count is 1.35 with SD 0.573. The p value for the Eosinophils is 0.788 hence the result is statistically insignificant.

DISCUSSION:

Developing countries lack essential medical facilities. People in these countries still look upon Alternative System of Medicine like Unani, Ayurveda and Homeopathy for their health problems; hence these systems of medicine are still popular in developing countries. Medicines used and therapies provided by these systems are effective, safe and economical. As mentioned earlier Cupping therapy has been used in Unani System of Medicine with lots of zeal, moreover, it has been also been advocated in the teaching of the Prophet (PBUH). To validate its scientific significance, the current study has been carried out. As seen in the result the Mean value of hemoglobin percentage for venous blood is 13.6 with SD 1.25, whereas the Mean value of Hijamah

blood is 14.1 with SD 1.15. The p value is 1.145, which is statistically insignificant because diapedesis of RBCs become significant 3 to 6 hours after the injury (Hijamah). During Hijamah procedure, incisions taken are of a surgical nature which evokes an early or immediate, prolonged inflammatory response at the site of Hijamah. This response starts immediately within a few minutes, but lasts up to 10 hours. During this response emigration of WBCs occurred within a few minutes and it reached its maximum within 6 to 9 hours¹². In the same manner the emigration of Neutrophils becomes concentrated around the site of injury, at 6 hours they collected around the site of injury, at 12 hrs in the central ischemic area and in 24 hours the whole ischemic area get packed with them¹³. The mean WBCs count in venous blood is 10940, whereas the mean WBCs count in Hijamah blood is 10220, which is less than venous blood. As the procedure of Hijamah lasts for about twenty five minutes, it is assumed that the migration of WBCs has not yet taken place so the total number of WBCs in Hijamah blood would be less as compared to venous blood. This is also reflected in Table No.3.

CONCLUSION:

The Hijamah therapy aims to produce a planned aseptic inflammatory reaction which increases the concentration of WBCs especially Neutrophils after a specific period (6-9 hours). It also has a positive effect on the lymphatic fluid. Hijamah influences the flow of lymphatic fluid at Hijamah site. As Hijamah sites are specific for various ailments, the above discussed effects are enhanced to promote phagocytosis and hence facilitate healing at the site of disease.

Considering the healing effects of Hijamah, it may be concluded that Hijamah therapy is effective, pocket friendly, acceptable, free from side effects and does not require hospitalization. Therefore Hijamah needs to be advocated and encouraged. It has also experienced a revival of interest even in the developed world.

ACKNOWLEDGEMENT:

I thank Mr. Mehboob- the masseur at Herbs and Hakim for his technical support during sessions of cupping therapy. I also thank Dr. Gufran Ahmed the pathologist for his presence and for collecting venous blood and Hijamah blood at the time of cupping sessions. He also carried out the hematological blood test at his pathology lab. My sincere thanks to Dr. Nasreen Shaikh-statistician for her guidance to carry out the study and for the statistical analysis of the data.

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