



Comparative Analysis of Hematological and Biochemical Profiles in Cupping (Hijamah) Blood vs. Venous Blood Samples''

Yasmine Faraj Abu Shaala¹, Amal Asweb^{2*}, Mustafa Ahmed bin Nasr³

¹Health care unit, Ras Al-Sayeh, Department Medical laboratory, Libya

² Faculty of Medical Technology, Misurata, Libya

³Mustafa Ahmed bin Nasr, College of Education, Misurata, Libya

* Corresponding author email address: amalswyb@gmail.com

Abstract

Background: Cupping therapy, an ancient therapeutic method still practiced in many parts of the world, has roots in Islamic medicine and was endorsed by the Messenger of God, Muhammad, for treating various ailments. The practice is traditionally performed on odd days, preferably when the patient is fasting. Cupping, derived from the Arabic word meaning to reduce or restore the body to its natural state, involves the use of glass or plastic cups to create superficial scratches that aid in extracting blood and toxins from the body. There are two recognized types of cupping: wet cupping, where the cup is applied with negative pressure, removed to make superficial scratches, and reapplied. and dry cupping, where blood is collected without making incisions.

Methods: This study focused on patients from the Faisal Cupping Centre, with 22 cases observed between 1June to 30June 2022. Haematological and biochemical parameters were measured to compare Cupping (Hijamah) blood with venous blood samples.

Results: The study revealed higher haematological indicators in venous blood compared to cupping blood, and were statistically significant, with p value <0.01, While the biochemical blood parameters were cupping blood slightly higher than venous blood, parameters blood sugar, urea, triglycerides, and uric acid were statistically significant, with a moral value of less than 0.05, while cholesterol and C-reactive protein were higher than 0.05.

Conclusion: The findings suggest that wet cupping affects certain biochemical markers, particularly blood sugar percentage, cholesterol, and triglycerides, with minimal impact on other indicators.

Keywords: Comparative Study, Haematological Parameters, Biochemical Parameters, Cupping Blood, Venous Blood

1. Introduction

Cupping therapy, an ancient therapeutic method still practiced in many parts of the world, has roots in Islamic medicine and was endorsed by the Messenger of God, Muhammad, for treating various ailments. The practice is traditionally performed on odd days, preferably when the patient is fasting[1-3]. Cupping, derived from the Arabic word meaning to reduce or restore the body to its natural state, involves the use

of glass or plastic cups to create superficial scratches that aid in extracting blood and toxins from the body[4].

There are two recognized types of cupping: wet cupping, where the cup is applied with negative pressure, removed to make superficial scratches, and reapplied [5-8].and dry cupping, where blood is collected without making incisions[9]. Hijama, as cupping is also known, has been found beneficial for treating conditions such as blood pressure, neck and shoulder pain, and promoting mental and physical relaxation by renewing blood, eliminating impurities, regulating hormones, and boosting the immune system[9, 10].

Research from various countries has highlighted the efficacy of cupping therapy in treating a range of conditions[11]. Studies from Iran, Germany, China, and France have demonstrated its positive effects on lower back pain, carpal tunnel syndrome[12, 13], gout arthritis, blood parameters like cholesterol and triglycerides, and migraine headaches, the World Health Organization has recognized the importance of traditional medicine, including cupping, in providing effective treatment, particularly for chronic diseases where conventional medicine may fall short or have adverse effects[14].

Numerous studies have shown the impact of cupping therapy on biochemical, haematological parameters, and blood pressure. For instance, research in Egypt revealed a decrease in liver enzymes and blood pressure post-cupping, while a study in Iraq indicated a reduction in blood sugar levels[3, 15].

This study aims to compare the variances in biochemical and haematological indicators between cupping blood and venous blood samples from patients, shedding light on the potential benefits of this ancient therapeutic practice.

2. Methods

All The study involved collecting samples from patients of all ages and genders who visited the Faisal Cupping Centre in the morning between 1June and 30 June 2022.

Ethical considerations: Approval was obtained from the specialized center (Faisal Cupping Center) and the patients participating in the study, while ensuring the confidentiality of the data throughout the study period.

Medical Tests and Equipment Used: The blood samples collected were distributed into special tubes for analysis. The first tube contained EDTA for a complete blood count (CBC) for analyzing White blood cells (WBC), Hemoglobin (HB), and platelets (PLT) using the Mindray BC-3000 plus device. The second tube contained heparin for analyzing blood sugar (B.S), blood urea (B.U), cholesterol (CH), triglycerides (TG), C-reactive protein (CRP), and uric acid (U.A) using the Mindray BS-430 device.

Method of collecting venous blood and cupping blood from volunteers: The study was conducted in the specified period, as mentioned above, on a random basis from among the cases attending the center, and it was not required that he be fasting at the time of cupping. The specific data for the case was collected.

The condition was diagnosed by a cupping specialist and the blood pressure was measured. Specific points were identified in this study, which are the withers point, two points on the shoulder blade, and three points on the lower back.

A venous blood sample of about 5 ml was drawn by a medical laboratory doctor and distributed into specialized tubes as mentioned previously.

Cupping was performed as follows, which took about 15 minutes. The cupping points were sterilized and the cup was placed in place for 5 minutes. After that, the cup was removed and superficial scratches were made on the skin using sterile blades, taking into account that the cup designated for blood parameters was soaked with a substance K_3EDTA to prevent blood clotting, it is distributed in designated tubes, along with sterilizing the cupping site, and recommending to the patient the precautions that must be taken after cupping, including not exercising physical effort and staying away from cold places (Mahdavi et al., 2012).

Statistical Analysis: The data collected was scrutinized and systematically organized. Analysis of data was done using SPSS version 25 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.

3. Result and Discussion

The study included 22 cases, equivalent to 44 samples. The age groups ranged from (21 – 75) years, including 17 cases of men and 5 cases of females. Most of the cases were from the age groups of (41 – 60) years, and there were 13 cases, while 5 cases were in the age group of (20 – 40) years, while 4 cases (61- 80) years, as shown in Figure (1), Among the results that we obtained from the cases, as shown in Table (1), are that most of them were healthy people, others had blood diabetes and high blood pressure, and most of them were non-smokers and those who had cupped before and were not fasting, this is similar to a study that was in Yemen for the year 2021(Saeed et al., 2021) .

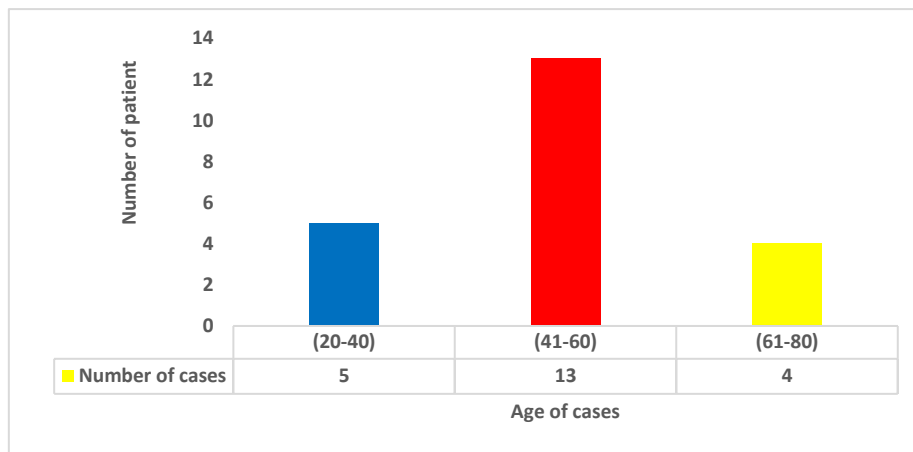


Figure 1 Age groups of cases

Table1 Demographic characteristics of the participants

| Variable | | Participant |
|--------------------------|--------|-------------|
| Age | Men | (21-75) |
| | Female | (42-64) |
| Gender | Men | 17 |
| | Female | 5 |
| Smoker | Yes | 4 |
| | No | 8 |
| Healthy | Yes | 12 |
| | No | 10 |
| Previous cupping therapy | Yes | 20 |
| | No | 2 |
| Fasting | | 6 |
| Random | | 16 |

The results obtained from this study, which was a random sample, consisted of studying the significant differences in the hematological and biochemical parameters of venous blood and cupping blood.

We found that the blood parameters for cupping blood in the current study were lower than venous blood and were statistically significant, with p value <0.01 as figure (2) and as table (2), This is not identical to a study in Egypt, in which cupping blood was higher than venous blood in the presence of statistical significance for white blood cells with a significance value of less than 0.05, and the rest of the variables did not have any statistical significance(Mulla, Ahmed, Ghawte, Ajmal, & Fatema, 2015), Compared to

another study in Iran, in which cupping blood was higher than venous blood in the presence of statistical significance for both hemoglobin and platelets with p value of less than 0.01(Mahdavi et al., 2012).

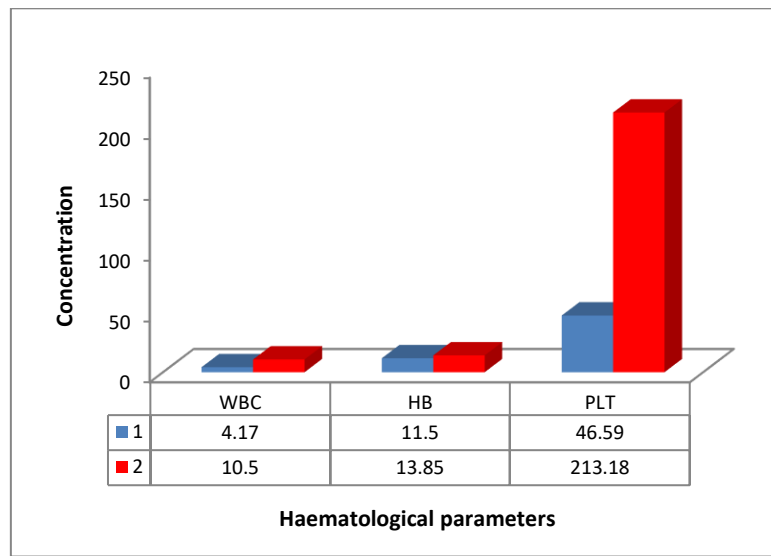


Figure 2 The concentration of Haematological parameters between blood samples with blood samples obtained through the technique of cupping.

While the biochemical blood parameters for the current study were cupping blood slightly higher than venous blood, such that the parameters blood sugar, urea, triglycerides, and uric acid were statistically significant, with a moral value of less than 0.05, while cholesterol and C-reactive protein were higher than 0.05 as figure (3) and as table (2), This is similar to a study that was in Yemen, in which cupping blood was higher than venous blood, and all variables were statistically significant less than 0.01 except blood urea(Saeed et al., 2021), It is also similar to a study in Iran in which all variables were statistically significant p value <0.01(Mahdavi et al., 2012).

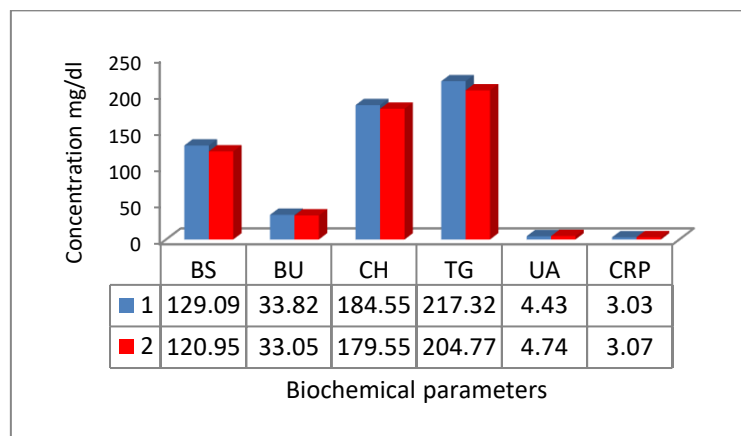


Figure 3 Comparison of Biochemical parameters between blood samples with blood samples obtained through the technique of cupping. 1 = Hijamah blood, 2= Venous blood

Table 2 Comparison of Biochemical parameters and of Haematological between blood samples obtained intravenously through standard procedure, with blood samples obtained through the technique of cupping

| Variables | Mean | Std. Dev. | Sig (2-tailed) |
|-----------|--------|-----------|----------------|
| WBC1 | 4.17 | 2.44 | 0.000* |
| WBC2 | 7.38 | 2.94 | |
| HB1 | 11.50 | 2.43 | 0.000* |
| HB2 | 13.85 | 1.60 | |
| PLT1 | 46.59 | 47.24 | 0.000* |
| PLT2 | 213.18 | 81.68 | |
| BS1 | 129.09 | 58.56 | 0.018* |
| BS2 | 120.95 | 54.81 | |
| BU1 | 33.82 | 8.63 | 0.016* |
| BU2 | 33.05 | 9.12 | |
| CH1 | 184.55 | 34.81 | 0.202 |
| CH2 | 179.55 | 38.98 | |
| TG1 | 217.32 | 84.46 | 0.033* |
| TG2 | 204.77 | 82.37 | |
| UA1 | 4.43 | 1.16 | 0.029* |
| UA2 | 4.74 | 0.98 | |
| CRP1 | 3.03 | 4.98 | 0.806 |
| CRP2 | 3.07 | 4.64 | |

4. Conclusion

Equations We conclude that cupping has a role in maintaining health, which may be due to detoxification. It also contributes to reducing some blood variables, as shown by previous studies, and biochemical variables, as in the results of the current study, which is one of the main causes of high it's to of kidney disease, heart disease, and atherosclerosis.

We recommend a more comprehensive study targeting a larger number of participants with chronic diseases, blood sugar and blood pressure, and measuring blood and biochemical indicators, perform liver enzymes and hormones analysis for patients.

Acknowledgements

Finally, I would like to thank the director of the health centre, Al-Aswak, every employee who helped in making the research appear in this way, Misurata Medical Centre, Department of Medical Laboratories as well as the Faisal Cupping Centre and the specialists working in the centre.

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