



“EPIDIMIOLOGICAL STUDY OF *MEDOJA-ARBUDA* WITH SPECIAL REFERENCE TO LIPOMA IN THE PREVIEW OF AYURGENOMICS (DEHPRAKRITI), BMI AND LIPID PROFILE”

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Article Received on 24/04/2016

Article Revised on 14/05/2016

Article Accepted on 04/06/2016

ABSTRACT

Acharya Sushruta described six types of *Arbuda*. As per the clinical features lipoma can be correlated to *Medoja-Arbuda*. Lipomas are the most common soft tissue tumour. According to contemporary science treatment available for its management are surgical excision, liposuction and lipolysis with steroids having debateable outcomes. Epidemiological study shows that entity is more common in males, in the age group of 26 to 45 year of age, having *Vata-Kaphaj Prakriti*, occupation wise maximum number of patients were having sedentary life style, with mixed variety of dietary habit, hereditary presentation in few cases, BMI range 25.0-29.99 with lipid profile within normal range in maximum number of patients.

KEYWORDS: *Arbuda*, Tumour, Lipoma, *Granthi*, *Medohara*, *Lekhan*, *Kanchanara Guggulu*.

INTRODUCTION

Acharya Sushruta.^[1] described six types of *Arbuda*.^[2] As per the clinical features lipoma can be correlated to *Medoja-Arbuda*.^[3] *Arbuda* is one of the surgical diseases explained in detail in the *Sushruta Samhita* in *Nidan*^[4] and *Chikitsasthan*^[5] in chapters named *Granthi-Apachi-Arbuda-Galgand* in respective segments. *Acharya Sushruta* has classified *Arbuda* in six type viz. *Vataja*, *Pittaja*, *Kaphaja*, *Mamsaja*, *Medoja* and *Raktaja*. Character wise *Vataja*, *Pittaja*, *Kaphaja* and *Medoja-Arbuda* resemble *granthi* and are curable, whereas *Raktaja* and *Mamsaja Arbuda* are incurable. Lipomas are the most common soft tissue tumour.^[6,7,8] It is benign (non-cancerous) growth of adipose tissue (cluster of fat cells) which becomes over active and so distended with fat that it produces a palpable swelling. This is the commonest tumour of the subcutaneous tissue. It may occur anywhere in the body; hence it is known as universal tumour or ubiquitous tumour. According to the clinical features Lipoma can be correlated to *Medoja-Arbuda* as mentioned in *Sushruta Samhita* under the heading of *Arbuda Roga*. The constituent of this *Medoja-Arbuda* are *Kapha* and *Meda* Occurring in 1 in 1000 inhabitants, lipoma is not a commonly reported condition, the incidence being around 0.1%. The exact aetiology of lipoma/multiple lipomatosis is not known. Some incidences suggest that it may be due to obesity, alcoholism, heredity, trauma⁹ or sedentary^[10] type of life style.

Lipomas are the most common soft-tissue tumour and usually are solitary lesion. Approximately 5% to 8% of patient of lipoma have multiple tumour i.e. multiple lipoma. Multiple lipomas are 3 times as common in man as women. It may occur anywhere in the body, but mostly seen in the subcutaneous tissue of trunk, nape of neck and limbs. These tumors can occur at any age, but are most common in middle age, often appearing in people from 40 to 60 years old. Lipomas are usually relatively small with diameters of about 1–3 cm, but in rare cases they can grow over several years into "giant lipomas" that are 10–20 cm across and weight up to 4–5 kg.

NEED OF STUDY

In order to have a rational management, the pattern of entity is required to be understood in more elaborate way. According to contemporary science treatment available for its management is surgical excision, liposuction and lipolysis with steroids.^[11,12] But surgery too has its own limitations say as in case of multiple lipomatosis, outcome of scar formations or financial/psychological burden. So in current scenario a contribution by Ayurveda in management of lipoma/multiple lipomatosis could be of worth mention. In *Ayurvedic classics* there are many drugs which have *Medohara* and *Lekhana* properties mentioned by different *Acharya*. *Acharya Sharangdhar*^[13] has quoted the role of *Kanchanara Guggulu* in this context. Keeping

in to consideration this and various other references, the present study named “Epidemiological Study Of *Medoja-Arbuda* With Special Reference To Lipoma In The Preview Of Ayurgenomics (Dehprakriti), BMI And Lipid Profile” was planned in order to have a better understanding regarding the occurrence of the entity concerning the various factors that might be having influence in regard to incidence of the lipoma/Multiple lipomatosis.

MATERIALS AND METHODS

Aims and Objectives

- To study the prevalence of *Medoja-Arbuda* (lipoma/Multiple-lipomatosis) in relation to Ayurgenomics (*DehPrakriti*), Gender, Age, Dietary habits, Physical activity, lipid profile, B.M.I. (body mass index).
- To have better understanding concerning the incidence of *Medoja-Arbuda* (lipoma/Multiple-lipomatosis) for the planning of effective management of it by following principles of *Ayurveda*.

Plan of Study

Epidemiological Study

Occurring in 1 in 1000 inhabitants, lipoma is not a commonly reported condition, The incidence being around 0.1% so to study the pattern of entity in terms of Ayurgenomics, age, gender, heredity, dietary habit,

Age

Table no.1- Showing distribution of patient according to the age

| Age | No of patient | %of patient |
|------------|---------------|-------------|
| 16-25 year | 35 | 23.33 |
| 26-35 year | 55 | 36.67 |
| 36-45year | 40 | 26.67 |
| 46-55 year | 10 | 6.67 |
| >56 year | 10 | 6.67 |

In this study maximum number of patients i.e.55 (36.67%) belonged to age group of 26-35 years, 40 (26.67%) patients belonged to 36-45 years, 35(23.33%) belonged to 16-25 years, 10 (6.67%) belonged to 46-55

physical activity, lipid profile and BMI, epidemiological study has been conducted over 150 subjects.

Selection Criteria

Inclusion Criteria

1. The subjects having Lipoma/Multiple lipomatosis.
2. Subjects willing to participate in study

Exclusion criteria

1. Subjects not willing to participate in study.

DETAILS

(1) **Sample size-** Total 150 patients suffering from *Medoja-Arbuda* (lipoma) as per the inclusion criteria were selected for epidemiological study.

(2) **Source-**The patients were selected from O.P.D. section of NIA, Jaipur.

(3) **Informed consent-** The study was explained clearly to the subjects and their signed, written informed consent was taken before starting the trial.

(4) **StudyDesign-** Details concerning the pattern of *Medoja-Arbuda* are recorded in specifically designed performa for Epidemiological study.

OBSERVATION AND RESULTS

Epidemiological study is conducted over 150 patient having lipoma to observe the pattern of the condition on the following heads:

years and 10 (6.67%) belonged to age group above 56 year of age.

Number of lipoma (whether solitary/multiple)

Table no.2- Distribution of patient according to Number of lipoma

| No of lipoma | No of Patient | % of Patient |
|--------------|---------------|--------------|
| Solitary | 109 | 72.67 |
| Multiple | 41 | 27.33 |

Out of 150 patients, maximum number of patients i.e 109 (72.67%) presented with solitary lipoma and 41 patients (27.33%) had multiple lipomas.

Gender

Table no.3- Distribution of patient according to Gender

| Gender | No. of patient | % of patient |
|--------|----------------|--------------|
| Male | 125 | 83.33 |
| Female | 25 | 16.67 |

In this study maximum patients i.e. 125 (83.33%) were males and remaining 25 patients (16.67%) were females.

Prakriti**Table no.4- Distribution of patients according to Prakriti**

| Prakriti | No. of patient | % of patient |
|--------------------|-----------------------|---------------------|
| Vata-Pitta | 15 | 10 |
| Vata-Kapha | 110 | 73.33 |
| Kapha-Pitta | 25 | 16.67 |

On assessing *Prakriti*, it was found that maximum 110 patients (73.33%) were of *Vata-kapha Prakriti*, 25 patients (16.67%) were of *Pitta-Kapha, Prakriti* and 15 patients (10%) were of *Vata-pitta Prakriti*.

Dietary Habit**Table no.5- Distribution of patients according to dietary habit**

| Dietary habit | No. of Patient | % of Patient |
|----------------------|-----------------------|---------------------|
| Vegetarian | 65 | 43.33 |
| Mixed Diet | 85 | 56.67 |

In this study 65 trial subjects (43.33%) were vegetarian while remaining 85 trial subjects (56.67%) were taking mixed type of diet.

Heredity**Table no.6- Distribution of patients according to Heredity**

| Heredity | No. of patient | % of patient |
|----------------------------|-----------------------|---------------------|
| Familial History | 45 | 30 |
| No familial history | 105 | 70 |

In this series, a maximum 105 patients (70%) not have positive familial history and remaining 45 patients (30%) were having the familial history of this disease.

Occupation**Table no.7- Distribution of patients according to Occupation**

| Occupation | No. of patient | % of patient |
|-------------------|-----------------------|---------------------|
| Service | 55 | 36.67 |
| Business | 40 | 26.67 |
| Labor | 10 | 6.67 |
| Housewife | 15 | 10 |
| Student | 30 | 20 |

In this series maximum 55 patients (36.67%) were from service, followed by 40 patients (26.67%) were belonging to business class, 30 patients (20%) student, 15 patients (10%) was housewife, minimum i.e. 10 patients (6.67%) was labor.

B.M.I. (Body Mass Index)**Table no.8- Distribution of patient according to BMI**

| BMI(body mass index) | No. of patient | % of patient |
|-----------------------------|-----------------------|---------------------|
| Underweight | 0 | 0 |
| Normal | 55 | 36.67 |
| Overweight | 80 | 53.33 |
| Obese | 15 | 10 |

On assessment of BMI it was found that maximum number of trial subjects i.e. 80 (53.33%) were overweight, 55 patients (36.67%) were having normal range and 15 (10%) patient were obese.

Lipid profile (Serum cholesterol)**Table no.9- Distribution of patient according to lipid profile**

| Lipid profile (serum cholesterol) | No. of patient | % of patient |
|--|-----------------------|---------------------|
| Normal | 75 | 50 |
| Borderline high | 40 | 26.67 |
| High | 35 | 23.33 |

On assessment of lipid profile (serum cholesterol) it was found that maximum number of trial subjects i.e. 75 (50%) were having their lipid profile within normal range, 40 (26.67%) were having border-line high lipid profile & 35 (23.33%) were having high levels when assessed for their serum cholesterol level.

DISCUSSION

Discussion on Epidemiological Study

Occurring in 1 in 1000 inhabitants, lipoma is not a commonly reported condition, The incidence being around 0.1%. Solitary lipomas were found more prevalent in comparison to multiple lipomas. This incidence is almost similar to the incidences reported in the previous studies. But no attributable reason could be assigned for this prevalence.

Age

In this study, It is observed that maximum number of patients 55 (36.67%) belonged to age group of 26-35 years, 40 (26.67%) patients belonged to 36-45 years, 35 (23.33%) belonged to 16-25 years, 10 (6.67%) belonged to 46-55 years and 10 (6.67%) belonged to age above 56 year. This incidence is almost similar to the incidences reported in the previous studies. The condition could be found in any age group but with the peak incidence is reported in 26 - 45 year of age.

Number of Lipoma

Out of 150 patients, 109 patients were having solitary subcutaneous lipoma while 41 patients were having, multiple subcutaneous lipomas. Solitary lipomas were found more prevalent in comparison to multiple lipomas.

Gender

The more prevalence of lipoma/lipomatosis in males could be attributed to the gender specific physiology owing to various factors in particular the endocrinal aspect which might be the reason of this prevalence in males in comparison to the females. The other reason could be the intake of alcohol which was there when asked about it while taking personal history. The similar prevalence is also found in the previous studies.

Prakriti

On assessing *Prakriti*, it was found that maximum 110 (60%) patients were of *Vata-Kapha Prakriti*, 25 (16.66%) patients were of *Kapha-Pitta Prakriti* and 15 (10%) patients were of *Vata-Pitta Prakriti*.

The entity lipoma/multiple-lipomatosis is related with *Medoja-Arbuda* which is found more prevalent in the subjects having *Kapha Dosha* predominance. The people having this *Dosha* predominance in *Prakriti* are found more prone to develop *Kaphaj Vyadhi* like lipoma/multiple-lipomatosis.

Occupation

The least prevalence of the lipoma/lipomatosis in labor class indicates the owing to strenuous physical activity,

there are least chances of development of disorders which are having any sort of relation with excessive body weight. On the contrary 125 subjects belong to a service/student/business class used to possess the sedentary life style resulting in to excessive body weight, aberrant fat deposition and various other conditions secondary to it.

Diet Habit

The condition of lipoma/multiple-lipomatosis is found to be more prevalent among the subjects having mixed variety of dietary habit. But nothing conclusive could be said that whether mixed / non-vegetarian diet / or any particular diet or dietary combination could be held responsible for the lipoma/multiple-lipomatosis. In present study dietary habits of the trial subjects were found to be irregular and unhealthy; concerning the schedule & type of food stuffs. In the current study habit of having fast and junk foods in both vegetarians/ mixed variety dietary habit were of worth mention. Particularly these sorts of food habits are definitely affecting the overall metabolism resulting into excessive body weight as per the height & weight ratio. Again leading to localized abnormal fat deposition, hence leading to the conditions that might be there as the secondary complications, say lipoma/multiple-lipomatosis in the present study.

Relation to Heredity

In this series, only 45 (30%) patients were having the familial history of this disease but 105 (70%) patients were not having any familial history. So the genetic constitution of the individual could also be attributed to have some influence concerning the occurrence of lipoma/multiple-lipomatosis.

BMI (Body Mass Index)

More prevalence of lipoma/multiple lipomatosis in the patient which are either over weight (as per BMI), or progressing towards being obese. More prevalence of lipoma/multiple lipomatosis in the patient which are either over weight (as per BMI), or progressing towards being obese could be due to inebriant fat metabolism & aberrant localized fat deposition.

Lipid Profile (Serum Cholesterol)

On assessment of lipid profile (serum cholesterol) it was found that maximum number of patients 75 (50%) were having normal serum cholesterol level, 40 (26.67%) were having borderline high serum cholesterol level and remaining 35 (23.33%) were having high serum cholesterol levels. So out of total 75 patients either having borderline high or high level of circulating lipids, showing prevalence of flawed fat metabolism and its related consequences.

CONCLUSION

1. Lipomas are the most common benign soft tissue tumour of the subcutaneous tissue.

2. The incidence of lipomas is about one in 1000 inhabitants.
3. According to the clinical features Lipoma can be correlated to *Medoja-Arbuda*.
4. Exact etiology of lipoma is unknown.
5. Epidemiological study shows that entity is more common in males, in the age group of 26 to 45 year of age, having *Vata-Kaphaj Prakriti*, occupation wise maximum number of patients were having sedentary life style, with mixed variety of dietary habit, hereditary presentation in few cases, BMI range 25.0-29.99 with lipid profile with\ in normal range in maximum number of patients.

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