1. INTRODUCTION

2. REVIEW

2.1. Historical aspects
2.2. Evolution of concept and recent evidences
2.3. Definition
2.4. Classification of varicose veins
2.5. Pathophysiology of varicose veins
2.6. Sign and symptoms
2.7. Complications associated with varicose veins
2.8. Prevalence of Varicose veins
2.9. Risk factors
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2.9.2. Gender
2.9.3. Weight, Height and Body mass index (BMI)
2.9.4. Female hormones and pregnancy
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2.9.6. Dietary factors, alcohol consumption and smoking
2.9.7. Positive family history
2.10. Genetic association of varicose veins
2.11. Diagnosis
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3. MATERIAL AND METHOD

Source of Data
Sample size and collection of data
Inclusion criteria
Exclusion criteria
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3.1.1. Assessment of risk factors
3.2. Dermatoglyphics
3.2.1. Finger printing of digits using ink pad method
(a) Rolling them across the inkpad
(b) Taking impression
(c) Labeling
3.2.2. Palm print
3.3. Cytogenetic analysis
3.3.1. Glassware / chemicals / equipments
3.3.2. Cleaning of glassware
3.3.3. Preparation of media
3.3.4. Planting and incubation of culture
3.3.5. Arresting the cells
3.3.6. Harvesting
3.3.7. Slide preparation before making a chromosome preparation
3.3.8. Giemsa banding (G-banding)
3.3.9. Karyotyping
3.4. Molecular analysis
3.4.1. Collection of peripheral blood samples
3.4.2. DNA isolation
3.4.3. Automatic method for DNA isolation
3.4.4. Rapid isolation of DNA
3.4.5. DNA extraction
3.4.6. Checking of DNA purity
3.4.7. Agarose gel electrophoresis
3.4.8. Polymerised chain reaction procedure for FOXC2 gene (region i):
3.4.9. Optimisation of PCR
3.5. DNA sequencing for another mutation on FOXC2 gene
3.5.1. DNA isolation and PCR
3.5.2. Mutation analysis
3.6. Questionnaire (appendix- i).
3.7. Precautions (appendix- ii).
3.10. Reagent preparation (appendix- v).
3.11. Statistically analysis (appendix- vi, vii and viii)
3.12. Laminar hood, microscope, division of a cell into segments for counting metaphase and metaphase spread.

4. RESULTS

4.1. Identification of patients of varicose veins
4.2. Age of diagnosis
4.3 Sex ratio
4.4 Clinical presentation of varicose veins
4.4.1 Clinical symptoms of varicose veins
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4.6.1 Occupation
4.6.2 Working groups
4.6.2.1 Sex ratio and working groups
4.4.3. Number of pregnancies/ parity
4.6.4 Body mass index
4.6.5 Smoking as risk factor
4.6.6 Correlation among various risk factors
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4.7.1 Fingerprint patterns
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4.8 Cytogenetic analysis of patients of varicose veins
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4.9.2 Allele specific amplification of DNA by polymerase chain reaction
4.9.3 Detection of mutation
4.9.3.1 FOXC2 mutation involving fragment 607 bp
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4.9.3.3 FOXC2 mutation involving fragment 450 bp
4.9.4 DNA sequencing of FOXC2 region i
4.9.5 Sex ratio and FOXC2 mutation
4.9.6 Correlation of life style, genetic cause and varicose veins
4.9.7 DNA sequencing for another locus of foxc2 gene
4.9.7.1 Sequence analysis
4.10 Family history and varicose veins
4.10.1 Familial mutation detection
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5. DISCUSSION

6. SUMMARY AND CONCLUSION

7. BIBLIOGRAPHY

8. APPENDICES (I-VIII)

9. PUBLICATIONS