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A Single Case Report on Baker's Cyst - A Successful Ayurvedic Surgical Approach

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ABSTRACT

Baker's cyst or Popliteal cyst is a fluid filled sac, which can be understood as *Kaphaja Granthi*, as because of character mentioned like slightly discolored, cold to touch, slight pain and itching. The treatment principles in both Modern and Ayurveda is similar i.e., Incision and total Excision. The detailed case study of *Khaphaja Granthi* in 9 year old was girl taken until 2 follow up for discussion. The patient was successfully managed with regular wound care and dressing, patient got complete relief from her complaints. The challenges involved in treatment of a 9 year old girl is damage to the vitals structures like Popliteal artery and Tibial nerve. The complication of Baker's cyst if it left untreated are Rupture of cyst -Synovial fluid can leak into the calf below causing pain, swelling and reddening, Trapping of Tibial Nerve, Blockage of Popliteal artery. The other treatments of Baker's cyst are Counter pain medicine, Arthrocentesis to removal excess fluid from the joint space, Steroidal injection into the joint to reduce cyst size.

Key words: *Khaphaja Granthi, Baker's Cyst, Popliteal Cyst, Chedana, Bhedana, Tibial Nerve, Popliteal Artery.*

INTRODUCTION

Baker's cyst that forms at the posterior aspect of the knee in popliteal fossa between the semimembranous and medial head of the Gastrocnemius. The eponym 'Baker's cyst' honors British surgeon William Morant Baker's who wrote a description of 8 cases of popliteal

cysts that he had seen.^[1] The idiopathic form affects children between 2 to 14 years and adults between the ages of 35 to 70 years^[2] tend to be affected more the incidence is between 10% to 41% while the prevalence is 5%.^[3] Twice as common as in male usually it is asymptomatic but may cause discomfort and movement limitation, it is commonly found in association with knee joint disorder such as Meniscus tear and Osteo-Arthritis, common symptoms includes swelling or lump behind knee, pain, fluid accumulation around the knee and clicking, locking of knee joint.

CASE REPORT

A 9 year old girl visited to hospital with complaints of painless swelling in right leg behind the knee since 1 year.

History of present illness

As per the statement given by the attender, patient was apparently healthy one year back, then she

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gradually noticed painless swelling in right leg behind the knee associated with occasional pain and discomfort, for these complaints they approached nearby hospital and taken medicines but did not get relief, so for further treatment they approach to our hospital for management.

History of past illness

No history of past Surgery.

No history of Trauma.

Family History

Nothing significant.

Asta Sthana Pariksha

- *Nadi* - 90 bpm
- *Mala* - 2 time a day.
- *Mutra* - 4 -5 times a day.
- *Jihwa* - *Alipta*
- *Shabda* - *Prakruta*
- *Sparsha* - *Prakruta*
- *Drika* - *Prakruta*
- *Akriti* - *Madhyama*

Systemic Examination

CNS

Higher mental function test: Conscious well oriented with time place person.

Memory: Recent and remote: intact

Intelligence: Intact

Hallucination / delusion / speech disturbance: Absent

Cranial nerve / sensory nerve / motor system: Normal

Gait: Normal

CVS

Auscultation: S1 and S2 heard, no murmur/added sound

RS

Inspection: B/L symmetrical

Palpation: Trachea is centrally placed, Non tender

Auscultation: B/L NVBS heard

GIT

Inspection: No scar marks, No discoloration

Palpation: Soft, non-tender, No organomegaly

Auscultation: Normal peristaltic sound heard

Percussion: Normal resonant sound heard over abdomen

Local Examination / Examination of Cyst

On Inspection

Site: Popliteal fossa

Size: 3 x 1.5cm

Shape: Oval

Surface: Soft and Smooth

Edge: Regular

On Palpation

Tenderness: Not Tender

Margin: Well defined

Lymphnode: Not Palpable

Investigation

X-Ray of Left Knee - Ap and Lateral View

Differential Diagnosis

- Abscess
- Lipoma
- Sebaceous Cyst
- Varicosity
- Hemangioma

- Lymphadenopathy

Diagnosis: Baker's Cyst - Kaphaja Granthi

Treatment Planned

Chedana Karma - Excision of Baker's Cyst.

Operative Procedure

Pre-Operative

- Patient was advised for NBM before 6hr of Surgery.
- Written consent taken.
- Inj Xylocaine 0.3 ml SC test dose and Inj T.T 0.5 ml IM given.
- Proctoclysis enema given.
- Part preparation done.
- IV fluids started 1hr prior to Surgery.

Operative

- Under all aseptic precaution patient was shifted to OT.
- Spinal Anesthesia given.
- Part prepared and draped with Betadine solution.
- Linear incision taken vertically over the swelling Skin Superficial fascia Deep fascia.
- Then gastiocnemius medial muscle separated cyst was identified adhesion cleared and cyst ligated and excised from the base.
- Layers were sutured with continuous suture with Vicryl 2.0 and skin with Simple interrupted suture.
- Part painted with Betadine solution and complete wound closure done with bandage.

Post Operative

- Patient was advised NBM 6hr after surgery.
- Advise for restricted head movement for 6hrs.
- Restricted limb movement of operated side.

Image 1: Skin Incision



Image 2: Identification of Cyst



Image 3: Ligation and Excision of Sac



Image 4: Ligation and Excision of Sac

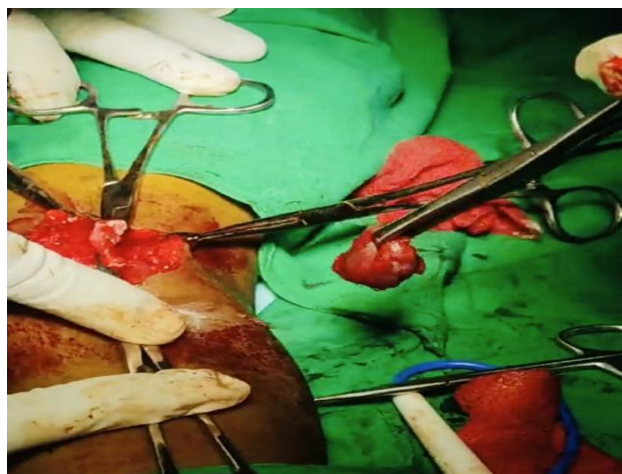


Image 5: Skin closure done with Vicryl 2-0



Image 6: Follow Up after 20 days



DISCUSSION

If Baker's Cyst not addressed leads to compression of surrounding vessels. If Cyst begins to enlarge into the

calf muscle this too can result in swelling, erythema, distal edema and a positive homan's sign - similar to thrombophlebitis or DVT. If the Cyst ruptures it may also lead to entrapment of posterior tibial nerve, occlusion of popliteal artery, anterior foot drop, posterior compartment syndrome. As per Acharya Sushruta this can be compared to *Kaphaja Granthi* with the symptoms like swelling which is cold in touch (*Sheeta*), Not discolored (*Avivarna*), has slight pain but severe itching (*Rujoathikandu*), grown big like a stony appearance (*Pashanavath Samhanopanna*).^[4]

CONCLUSION

Cysts can be compared to granthi in Ayurvedic texts. In this surgical excision is the line of treatment i.e., *Chedhana Karma*. As per the *Yukti* of surgeon one should adopt the surgical excision here, care should be taken not to injure the underlying arteries and viens as the same said by *Acharya Sushruta - 'Marma Sira Snayu Sandhi Asthi Pariharan'*.^[5] *Acharya Sushruta* has included every topic related to surgery from the anatomical consideration to description of diseases and their surgical management including surgical instruments to be used. This has been explained prior to development of modern medical system. Hence *Acharya Sushruta* is regarded as father of surgery.

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