

# Appendicitis – Importance of family history in diagnosis

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## Abstract

**Introduction:** Appendicitis is the commonest surgical emergencies in most of the countries and is still associated with high morbidity in spite of technological advances. This study was undertaken to study the relationship of family history with appendicitis. **Materials & Methods:** The patients operated upon by authors between Jan 1999-Oct 2007 in a tertiary care center were studied retrospectively. **Results:** a total of 821 cases were studied and in age group of less than 20 years, 45% of cases in whom histology had confirmed appendicitis had positive family history as compared to 13% in whom histology had revealed normal appendices. In older age groups relation was less significant. **Conclusion:** There is strong relation of family history with appendicitis in younger age groups and this history can be used as a strong tool for diagnostic tool and thereby prevent morbidities particularly when imaging facilities are not available.

## INTRODUCTION

Appendicitis is the commonest surgical emergency in most of the countries,<sup>1,2,3</sup> and diagnosis is based on history, clinical examination and imaging. This condition is still associated with significant morbidity and mortality in pediatric age groups ,particularly in poor regions of the world where advanced imaging facilities are not available. This study was undertaken to evaluate the value of positive family history of appendectomy in diagnosis of appendicitis.

## MATERIALS AND METHODS

This is a retrospective study of all the cases in which the authors either performed or assisted in appendectomy in the Department of Surgical specialties of the Sheri Kashmir Institute of Medical Sciences, Srinagar, and Kashmir, India from Jan1999 to October2007. This is a 1400 bedded medical university recognized by Medical Council of India. The records were retrieved from the databank of the Medical Records Department and the personal notes and logbooks of the authors. The records were thoroughly studied and data on age and family history of appendectomy in first order relatives (parents and siblings) was retrieved. Exclusion criteria included: unclear or absence of family history of appendectomy in the records.

## RESULTS

From Jan 1999 to Oct 2007, 821 cases had undergone appendectomy and out of these 612 patients had

histologically proved appendicitis .Rest of the 130 patients had normal appendices and one patient had adenocarcinoma. Further 78 cases were excluded due to unclear or absent family history in the records.

## Figure 1

Table 1: profile of patients with histologically proved appendicitis

Age groups(years)	No of patients	Patients with +ve family history	%age of pts with family history
Up to 10	153	89	58
10-20	141	43	31
20-30	102	13	13
30-40	72	5	7
40-50	67	4	6
50-60	27	2	7
Above 60	12	1	1
Total	574	157	26

From Table 1, it is clear that out of the total of 574 cases, in 157 cases (26 %) had at least one of the first degree relatives who had undergone appendectomy. But in the age group of 0-20 years, 132 out of 294 patients had positive family history, which amount to 45% cases.

**Figure 2**

Table 2: profile of patients with histologically proved normal appendices

Age groups(years)	No of patients	Patients with +ve family history	%age of pts with family history
Up to 10	38	6	16
10-20	41	5	12
20-30	17	2	12
30-40	14	2	14
40-50	9	1	11
50-60	7	0	0
Above 60	4	1	25
Total	130	17	13

From table 2 it is evident that 17 out of 130 cases i.e., 13% of patients in whom normal appendices were removed after having preoperatively got diagnosed as appendicitis had a family history of appendectomy where as this percentage in 0-20 years group was 14%.

**DISCUSSION**

Appendicitis is the commonest surgical emergencies in most of the countries <sup>12</sup>and is still associated with significant morbidity. Its diagnosis is still based on clinical examination in spite of major technical advances. <sup>3</sup>This is particularly true in economically poor regions like Kashmir where the imaging facilities like CT scan are either not available round the clock or not affordable for the patients. Meticulously taken family history with emphasis on histologically proved appendicitis in first degree relatives can help in narrowing down the list of different diagnosis in favor of appendicitis <sup>45</sup>. From our data we found out that in cases of appendicitis , the family history was positive in 26% , and in 45% of patients below 20 years, at least one of the first degree relatives had already undergone appendectomy. In contrast in patients in whom specimens of appendices revealed normal study, the percentage of positive family history was respectively 17% and 13%, with a clinically and statistically significant difference (>3:1 ratio) between under 20 years groups. Though there are not many studies on this issue as it deserved to have but all the available literature has found out strong relation of family history to appendicitis.<sup>3,6-7</sup> Some workers have indeed attempted to localize the gene though no specific gene could be found out.<sup>8</sup> There are also multiple reports of simultaneous occurrence of appendicitis in twins <sup>9-11</sup>. But in spite of available evidence linking family history to appendicitis, this important aspect has not been not addressed as seriously as it deserved. We had to exclude 78 cases (i.e. 9.5%) only because there was

no/unclear mention of history of appendectomy in the family, inferring that the surgical team did not deem the family history to be important for diagnosis. The importance of using methods other than sophisticated imaging which should include family history is particularly relevant in economically poor areas like Kashmir where the imaging or even basic laboratory facilities are either not available or not affordable to the poor patients ,keeping in view the fact that operations like appendectomy are done at secondary and district healthcare facility levels.

**CONCLUSIONS**

In a patient in whom there is a positive family history of appendectomy for appendicitis, the threshold for diagnosing appendicitis should be low particularly when imaging facilities are not available.

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