Profile of Fibroadenoma Mammae Patients at MRCCC Siloam Semanggi Hospital 2019-2020

Abstract

Fibroadenoma mammae is a benign tumor in the breast that can grow in women aged 14-35 years. FAM has a solid mass with a rubbery consistency, is well-defined, and has low cellularity cells. FAM is classified as a benign tumor but can increase the risk of breast cancer by as much as 2.17 times. There are at least 10% of women in the world have FAM lumps. Jakarta Breast Center reported 1,971 out of 2,495 patients suffering from benign FAM tumors. FAM incidents are increasing yearly, and the concerns are often misinterpreted as malignancy. Until now, the cause of FAM cannot be known with certainty. Several risk factors have been identified, such as family genetics, age, hormones, radiation exposure, and contraceptive use. This study aims to determine the profile of FAM sufferers at the MRCCC Siloam Semanggi Hospital in 2019-2020. The research was conducted by total sampling method using anatomic pathology archives. Research on 131 patient records found that the largest age group occurred at 16-30 years, with as many as 68 patients (51.9%). Based on the location of the breast, most FAM lumps were found on the right side in 58 patients (44.3%), with the majority having one lump in 92 patients (70.2%). The most commonly found FAM was > 6cm in 52 patients (39.7%), with the most commonly found consistency being supple in 102 patients (77.9%), and all of them had clear boundaries in 131 patients (100%). Women with risks and suspicions of breast lumps are expected to do early detection with the BSE procedure.

Keywords: fibroadenoma, mammary, profile

Introduction

Fibroadenoma mammary (FAM) is a benign neoplasm often found in women aged 14 to 35 but can also be found at any age. The features of this disorder are clear tumor boundaries, rare cell division, and low cellularity. This breast tumor is usually a hard lump, has no fluid, and is not accompanied by pain. This disorder is the development of intralobular stroma, which consists of epithelial and stromal cells, known as biphasic. [1; 2]

Even though this FAM tumor is benign, it can still trigger the risk of developing breast cancer. This was revealed by a study conducted by Lee & Soltanian (2015) that women with FAM have at least a 2.17 times greater risk of suffering from breast malignancy than women without FAM. However, based on research on specimens of FAM patients who later develop into malignancy, it is rare to find them. It is because only 0.002-0.125% of breast cancers are found to originate from FAM benign tumor specimens.[3] Referring to Globocan data (2018) shows that events that focus on breast malignancy in the world have an average result where women aged 46 years often find the growth of abnormal cells in their breasts. This data suggests that Asia contributes to the highest incidence rate, with a case yield of 911,014 (43.6%). Meanwhile, Southeast Asia has the third highest yield, where Indonesia is included in the region. [4] According to data taken from the Indonesian Ministry of Health (2020), the results showed that the early detection of breast tumors occurred in women aged 30 to 50 years

in 2019 were 28,910 cases, where the highest cases were in West Java province, with total cases 6,109 out of a total examination of 113,838 people. At the same time, the lowest cases were in the province of Papua, with a total of 4 cases out of a total examination of 1,078 people. Likewise, 4,610 cases were found, with a total of 91,036 examinations in the Indonesian capital, DKI Jakarta. [5]

Although the exact cause of FAM is unknown, several factors have been identified as a cause of FAM disorders, such as family genetics, age, hormones, radiation exposure, and contraceptive use. FAM cases are increasing yearly, accompanied by concerns about lumps around the breast, often misinterpreted as malignancy. Even though you need to know, a lump in the breast is not always malignant and does not always require surgery. Based on research conducted by Alini & Widya (2018) on 40 respondents at the General Surgical Specialist Polyclinic at Bengkalis Hospital, it was found that 21 people were known to suffer from FAM. [6]

Based on the background above, the researcher is interested in examining the profile of FAM sufferers at the MRCCC Siloam Semanggi hospital in 2019-2020, which refers to the hospital's anatomical pathology archive. Based on the background described by the researchers, a question was obtained: the profile of FAM sufferers at the MRCCC Siloam Semanggi hospital in 2019-2020. The research objective is to find out the profile of FAM sufferers at the MRCCC Siloam Semanggi Hospital in 2019-2020.

Literature Review

The breasts are two accessory glands of the skin that look round and hang on the anterior wall of the thorax around Costae II-VI. The breast is bounded medially by the sternum and laterally by the mid-axillary line. [7] Anatomically, two-thirds of the breast covers the surface of the pectoralis major muscle, while one-third covers the surface of the serratus anterior muscle at the edges, and the other half covers the surface of the rectus abdominis and external oblique muscles. [8] In adult women, the breasts have a mass of fat, and this can allow the breasts to move in several directions. [7] Women's breasts have a special function: to provide nutrition for the baby by secreting milk. Breast glands generally number 15-20 lobes, where each lobule secretes milk and flows into a channel connected to the lactiferous duct, then channeled into the lactiferous sinuses. For some time, it is accommodated or directly released into the areola. The mammary glands are attached to the dermis mainly by the substantial retina cutis and suspensory ligaments. In addition, the mammary glands are located under the edge of the pectoralis major muscle down to the axillary fossa and can expand according to the volume of milk secreted. [7] The areola of the breast is the part that is darker than the surrounding area. This section has two secreted glands: (1) Sebaceous glands; (2) Montgomery's glands. Both of these glands secrete oil and maintain the elasticity of the breast's areola during lactation. It is due to maintaining the comfort of the mother and baby during lactation. [7; 9]

From an anatomical point of view, the breasts are mainly supplied with three parts, namely: (1) Anterior intercostal, originating from the thoracic artery, which was originally from the subclavian artery; (2) Edge of the breast, supplied by the lateral thoracic artery; (3) Thoraco-acromial, which is a branch of the axillary artery. Venous drainage in the breast blood will flow to the nearest venous parts, such as in the intercostal, axillary, and thoracic veins that are closest to it. The lymph vessels will help in terms of fighting infection. About 75% of the breast will secrete lymph nodes, then

flow to the lymph nodes in the axilla, and the rest will flow to the infraclavicular, thoracic, and parasternal parts. [9]

The development of female breasts begins at puberty, where many hormones are needed to stimulate breast development until it becomes perfect. Estrogen is a hormone that plays a role in stimulating the growth of the breast glands, while progesterone is a hormone that plays a role in developing the lobuloalveoli of the breast. In addition, there are also deposits of fatty tissue that provide consistency to the breasts. When a woman is pregnant, her breasts will get bigger over time. It is because, in response to the stimulation of high estrogen levels, progesterone, prolactin, and HCG. This high hormone level will induce a signal to stimulate the enzymes used to produce milk which will be used as nutrition for the baby. The milk output of the mammary glands is secreted into the ducts in small amounts, while the large amount will be secreted sometime after the fetus is out. After delivery, there is a sudden drop in the levels of estrogen and progesterone hormones, together with the appearance of the placenta from labor. The decrease in levels of the hormone estrogen triggers lactation. [10] After birth, the hormone will increase the function of lactation for nutrition for the baby. Two hormones work synergistically when the baby suckles the breast, including (1) Prolactin, which will work to increase and maintain milk production; (2) Oxytocin, which triggers milk ejection. The secretion of these two hormones is stimulated by a neuroendocrine reflex initiated by sucking. [11]

Milk secretion stops when the baby is weaned, and this happens because there is no suction, so the hormone prolactin is not stimulated, and the secretion of the mammary glands will stop continuously. Another mechanism says the absence of sucking causes the cessation of oxytocin stimulation, which results in the cessation of milk ejection. However, because milk production has not stopped, milk buildup occurs in the alveoli, which causes the breasts to swell. Due to this accumulation, the pressure on the alveolar epithelium will suppress milk so that it does not produce. [11]

When women go through menopause, there is a final transition where the breast ducts shrink, and the glands constrict. At this time, the breasts accumulate fat and eventually change the breast's size, consistency, function, and structure. [12]

When a woman enters her teens, several changes can be seen, including a change in the part of the breast that begins to develop to look prominent and filled. It is due to increased levels of the hormone estrogen; besides that, fatty connective tissue accumulates and increases in ductal branches. Simultaneously, the breasts and nipples will also develop along with the growth of the lactiferous sinuses. [13] The adult female breast has 15-20 lobes, each a mixture of tubuloalveolar glands. Each lobe is separated by dense interlobar connective tissue. Over time, lactiferous ducts emerge from each lobe on the surface of the breast papillae. [14] As adults, the breasts of women who are not pregnant will show a lot of connective tissue and also a few glands. Changes will occur when women experience the menstrual cycle, where the epithelium in the duct will appear columnar. It occurs before menstruation and ovulation and is caused by high estrogen levels.

During pregnancy, a woman's mammary gland undergoes many changes. It is due to estrogen, progesterone, prolactin, and lactogen levels. As a result of this transition, the breasts look different structurally, but this is intended to prepare for lactation. Histologically, the alveoli are proliferating to become secretory alveoli that prepare milk production. During pregnancy, plasma cells will become more numerous. It is because the loose connective tissue inside the lobules is infiltrated by plasma cells and

lymphocytes, so the cells will produce immunoglobulin (IgA). As pregnancy progresses, there will be less intralobular connective tissue but more interlobular connective tissue due to the developing mammary glands. [13; 14]

At the time of birth, the mammary glands have numerous dilated alveoli, which are filled with the products of secretions. During this lactation period, myoepithelial contractions drain milk from the alveoli to the excretory interlobular ducts, which end in the breast papillae. [14] At the end of the lactation period, the mammary glands will regress due to the absence of stimulation to the areola, so the secretory alveoli degenerate. There are many cell and cell death products around the mammary glands. The function of the duct system in the gland returns to normal; that is, it becomes inactive. After the cessation of menstruation, known as menopause, the size of the breast ducts and alveoli will decrease, and the number of fibroblasts, collagen, and elastin will be reduced in the distro may. [13]

FAM is the most common type of benign breast tumor found in women. Based on epidemiological data, this type of tumor is often found in women aged less than 30 years, but it is not uncommon for FAM to be found in women of all ages. According to the American Cancer Society, FAM is often found with conditions that shrink when women are 45-55. It happens along with the menstrual cycle, which stops completely naturally. Often FAM feels enlarged when a woman is pregnant and at the end of the menstrual cycle. This enlargement is thought to be due to an increase in estrogen levels. [15; 16; 1]

FAM is a benign tumor generally found in the breast's lobules with its constituent tissues, namely epithelial tissue and stromal cells. FAM has a solid mass but has a rubbery consistency, is well-defined mobile, and its cells rarely divide. [15; 1] Often, teenagers are worried about the condition of the breast where there is a lump resulting from a palpable mass, but there are also many FAM sufferers who are unaware of the lump. [3; 2] Histologically, FAM is called a biphasic tumor because its constituent tissues are epithelial and stromal cells. This examination reveals a fibroplastic stroma with spaces lined with various sizes and shapes of epithelium, giving it a similar appearance to a ductal structure. It is this fibroplastic stroma that seems to suppress the glandular cells, so it is called the "Pushing Border" [1; 2] Even though this tumor is benign, in some cases, FAM can develop into a malignancy. In a study referred to by Amin et al. (2013), some FAM is associated with several rare cancers, such as Maffuci syndrome, Cowden syndrome, and Carney complex fibroadenoma. So that the development of FAM with this type must be appointed immediately. [15]

The incidence of benign FAM tumor is a tumor that often occurs in pubertal women. At least 10% of women in the world have FAM lumps. This disease is often found in adolescent girls, and its incidence decreases in adulthood. [2] Age of the 2nd and 3rd decade is the most common occurrence of FAM cases. [2; 18] This was proven in a study conducted by Vijayakhumar et al. (2013) in India, where this study found 139 out of 210 total cases of FAM, mostly occurring at the age of 16-30 years. This study also said that the incidence of FAM was found in married women compared to unmarried women due to reasons for early marriage and the number of deliveries that occurred. In addition, many cases of FAM were found in women living in urban areas in this study. Other possibilities that influence are teenage hormones, menopause, and the existence of hormonal therapy. [17]

Based on research by Fordyce et al. (2017) conducted at the Guido Valadares National Hospital in Timor Leste, the results found 45 cases of anatomic pathology

biopsies out of 116 total breast cases with an average age of 24 years. 18 According to research conducted by Stachs et al. (2019) using a literature study method from 1985 to May 2019, FAM cases are very common in women aged 15-35 years, accounting for 25% of cases. [19] Case data regarding FAM in Indonesia until now does not have complete data. According to the Indonesian Cancer Foundation, from January to June 2011, at least 100 patients suffered from benign tumors in their breasts. [6] Meanwhile, a study by the Jakarta Breast Center found 1,971 patients suffering from benign FAM tumors from 2,495 case samples of patients who came for check-ups. Meanwhile, from research data at the Siloam MRCCC Semanggi Hospital from 2017 to 2018, the results found 50 out of 304 total patients suffering from FAM aged 20 to 39 years. [20]

FAM is a lump that is categorized as a benign tumor in the breast. Based on the classification, there are three types of FAM division: [21] common fibroadenoma, giant fibroadenoma, and juvenile fibroadenoma. In addition, there is a classification of FAM based on the development of histological patterns, divided into Intracanalicular Fibroadenoma and Pericanalicular Fibroadenoma [22; 23; 24; 25; 26]. The causes of FAM are still not known with certainty. However, several studies suggest that several factors can encourage the occurrence of this tumor, including age, marital history, family history, environmental factors, hormones, obesity, and other diseases [22; 27; 28].

FAM is the most common tumor in the breast; generally, this tumor is found during puberty with an incidence that is often found at the age of 15-35 years. [19] FAM is an enlargement of the breast due to benign tumors in the lobules of the breast. This FAM has a dense but supple consistency, firm boundaries, easy-to-move, and fibrous tissue that makes the lump seem elastic. [29] Because the FAM structure in the breast is easy to move, researchers call this lump another term, Mouse Breast. [38] FAM is generally detected incidentally through self-screening. It is because these benign tumors are usually asymptomatic. However, in some cases, symptomatic FAM was also found. FAM is often found outside the upper breast with single or multiple tumor lumps. According to research, about 75% of cases of FAM sufferers have a lump with a single number, and 25% have a lump with more than one number. In addition, FAM can be found in one part of the breast or both parts of the breast. [22; 19; 23]

Clinical presentations from FAM generally occur young, especially between 15 and 35 years. FAM is often found in an asymptomatic state where the sufferer feels no pain. However, some sufferers can feel symptoms of a lump with pain or tenderness. [22] In addition to the presence or absence of pain, people with fibroadenoma usually find a lump accidentally when palpating the breast. Based on this touch, the patient will feel a lump in the breast that is oval in shape, dense, smooth, and movable. This breast lump is often found primarily in the upper lateral quadrant. These lumps can develop where the size ranges from 1 cm to even more than 10 cm. However, you can also find FAM lumps that are so small that a microscopic examination is needed to see them. Sizes that increase over time can change the structure of the breast so that it looks asymmetrical. [22; 17]

FAM benign tumors are often found when women perform independent breast palpation. Then, when touching it, unexpectedly, there is a lump in the breast that can make the sufferer anxious. Apart from being detected through self-examination, FAM is often detected accidentally during medical examinations. [17] The medical examination can be in the form of palpation, imaging, and cytology examinations. Research conducted by Li et al. (2018) revealed that imaging using ultrasound is a tool that can

support the diagnosis of FAM cases, so in modern times ultrasound is a tool that is often used and reliable. In addition, an examination based on anatomical pathology is a follow-up examination to confirm lumps and if major symptoms confuse the clinician. [25] Based on a study conducted prospectively on 202 samples of women under 40 years of age, it is evident that 90% of cases are diagnosed based on physical examination, ultrasonography, and cytology. [30] Therefore, the following are clinical examinations used to support and diagnose FAM: ultrasonography (USG), mammography, cytological examination, and histopathological examination. [30; 31; 32; 33]

In general, only a few FAM management take further treatment because cases often found are women suffering from FAM without any symptoms. However, some women who suffer from FAM with symptoms need to think about taking further treatment measures. In addition, some women choose surgery because of anxiety from FAM. [2; 19] Management of FAM can be done through non-operative and operative management.

BSE is the abbreviation for breast self-examination. This examination was developed based on attention to the health condition of women's breasts. This examination is useful for screening whether there is a lump in the breast, whether there are changes in skin color, checking the nipples, and checking for fluid that comes out. Carrying out this examination does not require special training because the procedure is not too complicated, is low cost, and can be done alone at home. Breast self-examination is carried out at least monthly on the 7th day after menstruation and performed on women over 20. In addition, menopausal women are also recommended to do breast self-examination on the same date every month. Besides being able to find suspicious lumps in her breasts, the purpose of a woman having her breasts checked can also be to learn about the structure of breast tissue and minimize the risk of complications as early as possible. Despite the great benefits of BSE as an early detection procedure, false positives often can be detrimental and cause anxiety. According to Kolak et al. (2017), BSE has a low sensitivity of only 12-14%. Therefore, in breast self-examination, it is required to carry out imaging examinations to complement and avoid false positive results. [34; 30]

According to PNKP (2015), the breast self-examination procedure can be carried out when a woman is approximately 20 years old by doing it at least once every seven days after menstruation. [32] BSE steps can be as follows: a) look at both breasts in a mirror, arms parallel to the bottom on either side of the breasts. Pay attention and compare the shape of the two breasts, the size of each breast, and whether there are changes in color, wrinkles, and swelling around the breasts; b) After that, raise your arms with your palms behind your head. Such movements make the breasts symmetrical. Then, look in the mirror to see if there are skin abnormalities similar to the structure of an orange peel; c) Lower one arm and feel the breast with your fingers with a circular motion and give a little pressure when touching the breast. Then swipe to another location and continue with the same motion. Check the entire breast repeatedly; d) The examination is continued by going to the axillary area, with circular movements, and giving a little pressure, the same as the previous examination. Look in front of the mirror, whether there is an enlarged gland; e) Finally, examine the base of the nipple. Then give a little pressure by massaging towards the front of the nipple. With this kind of movement, you don't need to worry too much if drops of liquid that are colorless or clear come out; and f) Repeat the examination on the other breast. [30]

Research Method

This study uses a descriptive research method with a retrospective approach. The data source used in this study is secondary data, namely in the form of anatomic pathology archives at the Siloam MRCCC Semanggi Hospital from 2019 to 2020, intending to know the profile of FAM sufferers. The study was conducted at the Siloam MRCCC Semanggi Hospital from 2019 to 2020. This study's work on a collection and implementation began in July 2021 to April 2022. The study population was all patients diagnosed with FAM at the MRCCC Siloam Semanggi Hospital from 2019 to 2020. The samples in this study used the total sampling method, meaning that all patient records diagnosed with FAM were used as samples. The research instrument used is secondary data from the archived Anatomic Pathology examinations of FAM patients for the 2019-2020 period at the Siloam MRCCC Semanggi Hospital. Data processing and analysis are carried out through the stages of data editing, data tabulation, data analysis, and data processing. The data processing technique used for research is descriptive analysis to describe or explain each research variable. This analysis is in the form of an accumulation of basic data in the form of a description. Data processing in this study uses the SPSS V.16 program. The identities of patients with FAM at the MRCCC Siloam Semanggi hospital in the 2019-2020 period are kept confidential and are not included in the research results.

Result and Discussion

In this study, data were obtained from FAM patients in 2019-2020, recorded in the archives of the Anatomic Pathology Laboratory at the Siloam MRCCC Cancer Special Hospital Semanggi, with 131 patients included in the inclusion criteria. The variables used in this study were obtained from the data of 131 patients, namely age, location of FAM, number of FAM, size of FAM, consistency of FAM, limits of FAM, and histopathological features of FAM.

Table 1. Age Group Frequency Distribution of Patients with FAM in 2019-2020

Age	Frequency	Percentage (%)
0-15 years old	0	0
16-30 years old	68	51.9
31-45 years old	47	35.9
> 46 years old	16	12.2
Total	131	100

Based on the table, the most age group diagnosed with FAM in 2019-2020 at the Siloam MRCCC Semanggi Cancer Specialist Hospital is the 16-30 year age group, with a total of 68 patients (51.9%) followed by the 31-45 year age group, namely 47 patients (35.9%). In the age group > 46, the results were 16 patients (12.2%). Meanwhile, in the age group 0-15 years, there were no results or (0%)

Table 2. Distribution of Location Frequency in Patients with FAM in 2019-2020

FAM location	Frequency	Percentage (%)
Left	52	39.7
Right	58	44.3
Bilateral	21	16.0
Total	131	100

Based on the table, the highest results were found in the right breast, namely 58 patients (44.3%), followed by the left breast with the results of 52 patients (39.7%). While the lowest results were found in FAM with a bilateral location, namely 21 patients (16.6%).

Table 3. Frequency Distribution of the Number of Lumps in FAM Patients in 2019-2020

Number of FAMs	Frequency	Percentage (%)
1	92	70.2
More than 1	39	29.8
Total	131	100

Based on the table, the highest results were obtained in 92 patients (70.2%) in FAM, which amounted to 1, and 39 patients (29.8%) in FAM, with more than 1.

Table 4. Size Frequency Distribution in Patients with FAM in 2019-2020

FAM size	Frequency	Percentage (%)
< 2 cm	34	26
3-5 cm	45	34.4
> 6 cm	52	39.7
Total	131	100

Based on the table, the highest results were found in FAM with a size > 6cm, namely 52 patients (39.7%), followed by FAM with a size of 3-5 cm in 45 patients (34.4%). While the lowest results were shown in FAM with a size < 2cm, namely 34 patients (26%).

Table 5. Distribution of Consistency Frequency in Patients with FAM in 2019-2020

FAM consistency	Frequency	Percentage (%)
Hard	29	22.1
Springy	102	77.9
Total	131	100

Based on the table, the highest results were obtained by FAM with a firm consistency, namely 102 patients (77.9%), and FAM with a hard consistency, as many as 29 patients (22.1%).

Table 6. Distribution of Boundary Frequency in Patients with FAM in 2019-2020

FAM limit	Frequency	Percentage (%)
Firm	131	100
Not firm	0	0
Total	131	100

Based on the table, the highest results were obtained in FAM with firm limits, namely 131 patients (100%) and 0% for FAM that were not firm.

Table 7. Frequency distribution of histological features in patients with FAM in 2019-2020

Histological Features of FAM	Frequency	Percentage (%)
Pericanalicular FAM	1	0.8

FAM Intracanalicular	1	0.8
Combined type FAM	57	43.5
No mention of FAM type	72	55.0
Total	131	100

Based on the table, the highest results were found in FAM without a histological type being mentioned, namely 72 patients (55%), followed by FAM with a combined type of 57 patients (43.5%). Meanwhile, pericanalicular results showed results in 1 patient (0.8%). This result is equivalent to intracanalicular showing results in 1 patient (0.8%). The results of a study of 131 patients with FAM followed the research conducted by Vijaykumar et al. that the age 16-30 years is the highest incidence for patients diagnosed with FAM. [17] These data were also corroborated by another study conducted by Lee & Soltanian, which suggested that the highest incidence of FAM occurred at fewer than 30 years old. [3]

Data on the incidence of FAM are mostly found in women aged 16-30 years, which can occur due to several factors [35]. However, many researchers suggest that the high incidence of FAM at reproductive age occurs due to the association of hormonal risk factors. It is evidenced by the histological structure of FAM, similar to hyperplastic breast lobules, where the FAM responds to a hormonal stimulus. [22] This opinion is in line with the study of Matz et al., which suggested that women at the age of 15-25 years, or what is known as menarche, can have FAM lumps in their breasts due to the link between lobule sensitivity and reproductive hormones which are risk factors for FAM. [36]

Women aged more than 46 years generally have experienced menopause; at this age, the incidence of FAM decreases. It is evidenced by the study of Vijaykumar et al., who found that as many as 13 patients (6.1%) were more than 46 years old. This opinion is corroborated by research conducted by Ajmal et al., which suggests that women who have gone through menopause rarely find FAM lumps in their breasts. When women age, the FAM lump will shrink and even disappear. A decrease in the response of reproductive hormones causes it. [17; 2; 36] Therefore, women who suffer from FAM and are approaching menopause must be given as clear information as possible about the link between FAM and menopause so that they can review the management that will be carried out. [15]

Based on the data in table 2, the results followed the research conducted by Çelik et al., namely that, generally, FAM can be found on one side of the breast, but these lumps can also be found in both breasts. [23] The data above concur with research conducted by Vijaykumar et al. which suggested that the average location of FAM found was evenly distributed on the left and right breasts. In addition, in this study, the findings found that the highest incidence of FAM was on the right, namely in 103 patients (49.0%), and the location of FAM with the lowest rate was bilateral, with the results of 9 patients (5.4%). [17] Meanwhile, according to Tan & Tan's research, FAM cases with bilateral breast tumors are rare. It implies that the research results are in line with the research conducted by Tan & Tan. [37]

The results of table 3 show that FAM with a single period was the most common case found during the examination. It is proven by a study conducted by Lee & Soltanian which stated that 75% of FAM cases refer to tumors with a single mass, and 25% of cases refer to FAM with more than one tumor. [17; 3] This is in line with a study by Amin et al., which stated that approximately 75% of FAM cases appear as a single number FAM, 15% of FAM cases appear as multiple numbers, and 10% appear

as multiple bilateral FAM. [15] Research conducted by Vijaykumar et al. found that 10-16% of FAM cases had more than one tumor, and the average tumor on one side of the breast could be 2-4 tumors. [17]

Table 4 data implies that FAM cases occur due to concerns and clinical manifestations due to lumps in the breast. The case that often occurs is the detection of a tumor accidentally when touching the breast. It is related to the size of the growing tumor lump. Research conducted by Vijaykumar et al. suggested that the size of each tumor varies in each case, ranging from 1 cm to 18 cm in size. However, the varying sizes of FAM can get bigger or smaller, and this is due to hormonal influences. [17; 3]

The table found 52 patients (39.7%) with FAM with a tumor size > 6 cm. It differs from research conducted by Vijaykumar et al., where the study found the highest cases of FAM were located at 3-5 cm in size, namely 109 cases (51.9%). [17] A study by Munawer et al. found the highest results, namely FAM with a size < 3cm in 53 cases (45.3%). [39] The above data is thought to be due to variations in tumor size from FAM patients, which are caused by the reciprocal influence of hormones and the menstrual cycle. In addition, the possibility of FAM with a giant classification called giant fibroadenoma, commonly found in young women, can affect the frequency of these data. [3; 37]

Based on table 5, it has been revealed by Amin et al. that FAM is an oval breast tumor with a rubbery or hard consistency. [15] Meanwhile, according to Prince & Wilson, the consistency of FAM tumors is rubbery but hard. It makes the tumor appear elastic. [29] Based on the table above, the highest results for the consistency of FAM are tumors with a rubbery consistency. It can happen because of the histological structure of FAM, namely the breast lobules, mammary glands, and fibrous connective tissue. [29; 2]

Based on table 6, it is explained the theory that exists in FAM, namely enlargement of benign tumors in the breast. Regarding histological structure, the mammary gland lobules press against the surrounding tissue. Due to their dense or rubbery consistency, they can form encapsulated structures. Therefore, FAM has firm boundaries and can be moved. [29] Because FAM is a subset of benign breast tumors and its histological structure is compatible, this is the reason for the finding of strict FAM borderline conditions in all patients in this study.

Table 7 of this study shows the histopathological features of FAM, divided into intracanalicular and pericanalicular. Pericanalicular histological picture has a condition in which abnormal cell growth surrounds the tissue of the gland. Meanwhile, the intracanalicular has a condition that narrows the spaces around the duct. [26] Based on the data table, the highest type is FAM which is not mentioned in the PA archive and the combined type. It is presumably due to a large amount of data for making a diagnosis intraoperatively and using the frozen section technique so that the pathologist must act quickly in diagnosing a suspicion of a tumor. [40] Meanwhile, the Thakur & Misra study showed that the histological pattern of FAM growth most commonly found was the combined type, as many as 76 (88.37%). [43] It is in line with the study's results, which found that FAM with the combined type was the second highest result in this study. In addition, according to Tozbikian, the distribution of patterns based on histology does not show any significant meaning for clinical purposes. [41]

Conclusion

Based on the aims and results of this study, the following conclusions were drawn: a) The results showed that the largest age group diagnosed with FAM histopathologically was 16-30 years old; b) The results showed that the right breast was the largest finding in patients diagnosed with FAM histopathologically; c) The results showed that tumors with a single number were the highest in patients diagnosed with FAM; d) The results of the study showed that FAM with a size of > 6 cm was the most common lump found; e) The results of the study showed that the most consistency found in patients diagnosed with FAM was the one with a rubbery consistency; f) The results of the study show that FAM with strict limits is the highest result found; and g) The results of the research on histological features of FAM found that most of those found were FAM that was not mentioned in the archives and followed by FAM with a combined type. Therefore, it is expected to increase the completeness of medical record archival data such as histopathological features, marital status, and family history so that better results can be obtained in future studies.

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