IDENTIFICATION OF THE FUNGI Candida albicans IN URINEELDERLY WOMEN WITH INCONTINENCE IN GRIAJANATI ORIGINAL GORONTALO CITY

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ABSTRACT

The fungus Candida albicans can cause a condition called candidiasis, which isa disease of the mucous membranes, mouth, vagina and digestive tract. The purposeof this study was to identify the fungus Candida albicans in elderly women with incontinence at the Griajanti Nursing Home, Gorontalo City.

This research method uses the approach used in this study is a qualitative approach. Qualitative research is a descriptive study that tends to use analysis, namely to describe the presence of Candida albicans in the urine of elderly womenwith incontinence in the Griajanati Nursing Home, Gorontalo City and the type of research used in this study is descriptive. Descriptive research aims to describe anddescribe a symptom, event and occurrence that occurs.

The results showed that some of the Candida albicans fungus was found in the urine of elderly women with incontinence who were successfully isolated in pure form. With the characteristics of colonies on solid medium slightly rising from the surface of the medium with a smooth, slippery or folded surface, yellowish white in color and smelling of yeast.

Keywords: Nursing Homes, Elderly, Incontinence, Urine, Candida albicans.

INTRODUCTION

Incontinence is an event that often occurs in women, especially in the elderly. This incident is in the form of unintentional urination, frequent urination without realizing it can cause the vagina to become smelly, damp, itchy, and the patient's hygiene problems. reduced by the fungus Candida albicans in the vaginal area [39].

Fungi are actually less pathogenic to humans, but they cause disease when conditions allow them to infect humans. Some types of fungi are also normal in the human body. To date, the most common fungal infection is candidiasis [1].

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Based on international data, the most common microorganism found in the world is Candida albicans, representing a global average of 66% for all Candida. The incidence of Candida albicans infection in

Submit: Nov 23rd, 2020 Accepted: Dec 15th, 2020 Published: Dec 26th, 2020

Asia from several epidemiological studies in Hong Kong has been found to be the most frequently identified Candida albicans species, with an average of 56% of Candida albicans cases in paddy women. Candida albicans has been found in Singapore (33.3%), Taiwan (55.6%), and Japan (41%). However, in Thailand, the incidence of Candida parapsilosis was slightly higher at 45% compared to 44.5% for Candida albicans. Candida parapsilosis and Candida tropicalis were the main pathogens in Malaysia, followed by Candida albicans, which only accounted for 11.76% of Candida cases.

Based on data from the Ministry of Health of the Republic of Indonesia, the prevalence of sex distribution with the highest prevalence of fungal infection in Candida albicans is female. In Lampung at 19.35% in 2016-2018, Padang at 13.64% in 2018, Makassar at 28.6% in 2017, John Bang at 45.4% in 2019, and Surabaya at 56.6% in 2017 [9].

All women cannot avoid the natural process, the aging process. The aging process is a decline in performance characterized by psychological and physical biological decline with visible symptoms of respiratory damage, including cell damage, nerve damage, and damage to the urinary system. Aging is also experienced by women between the ages of 55 and 65 years. These women are classified as older women. These older women also have symptoms, including what is known as involuntary urination or urinary incontinence. Everyone should have a level of sugar in the walls of the vagina. Elderly women, including the elderly in Gorontalo, or more precisely the Griajanati Nursing Home in Gorontalo, have the greatest risk of contracting Candida albicans. There are 23 elderly living in the Griajanati nursing home,

If candida occurs in the vagina, fluconazole can be given topically or orally. Chamdidiasis is widespread throughout the vagina, usually severe, progressive and fatal. Candida albicans causes candidiasis, a disease of the mucous membranes, mouth, vagina and digestive tract. Most infections are endogenous because the fungus has a predisposition. Therefore, Candida albicans is referred to as an opportunistic fungus.

Urinary incontinence is the most common health problem in the elderly. This is rarely reported by the patient or family members and does not require treatment, as it is considered embarrassing or natural for the parents. Urinary incontinence is the involuntary excretion of urine at an undesired time (regardless of frequency and volume), which causes social and hygienic problems for stakeholders [5].

Urinary incontinence has medical, psychosocial, and economic implications. Several conditions commonly associated with urinary incontinence, including skin and sleep disorders, have psychosocial, and economic consequences such as depression, irritability, isolation, loss of self-confidence, limited social activities and high medical costs. Poor sleep quality caused by environment, unpleasant sleep, awakeningat night and urinate, stress sera.

Old age is the final stage of human life. Aging is a condition that can occur in humanlife. Aging is a lifelong process that begins early in life, not at a specific point in time [29].

According to Health Law 23/1992, Article 19 Paragraph 1, old age is someone who is undergoing changes physically, biologically, socially, and psychologically. These changes affect every aspect of life [16].

Age is a combination of two factors, namely biological factors and social factors. In social factors, age is a stage of a person's

withdrawal from various positions in the social structure. Older people are also people who change gradually over several decades. Elderly is a normal stage of development where everyone enters old age and is a reality that cannot be avoided [26]. Candidiasis is a disease caused by the fungus Candida albicans that attaches to the vaginal wall. In the elderly, incontinence can lead to infections caused by the fungus Candida albicans, because the vaginal area becomes moist. Therefore, if Candida albicans fungal infection occurs in an elderly person with incontinence, the presence of Candida albicans in the urine can also be detected in the urine of the parent.

Candida albicans spores were found in elderly urine samples cultured in SDA (Saborud Dectrose Agar) media, based on a previous study of four elderly people with incontinence. There are several factors that can cause the growth of Candida albicans in the urine: intrinsicor extrinsic predisposition. Other factors are hygiene problems in case of urinary incontinence, Candidiasis is an infectious disease that can be sub-acute or acute. This infectious disease is caused by the fungus Candida albicans species, this fungus can affect the vagina, skin, mouth, nails, bronchi, or lungs, and sometimes with sepsis, endocarditis. It can cause inflammation, or endocarditis, and the disease occurs worldwide and can affect all age groups. , both male and female [39].

Fungal diseases caused by the Candida type of fungus can show broad clinical manifestations, ranging from superficial such as skin and mucosal infections, to deep, widespread, and elevated as in invasive candidiasis. The main mechanism of transmission is mediated by endogenous candidaemia, and the opportunistic pathogen is Candida species, a microbial flora of various anatomic locations under weak host conditions. Another mechanism of infection is extrinsic, occurring mainly in the hands of medical professionals caring for patients [40].

There are various types of the genus Candida that can cause candidiasis. They are a type of candida that are normal flora of the skin, mucous membranes and digestive tract. Candida species colonize human mucosal surfaces soon after birth and there is always a risk of endogenous infection. Candidiasis is the most common systemic fungal disease, and the most common pathogens are C. albicans, C. parapsilosis, C. glabrata. *C. tropicalis, C. guilliermondiidan, C.* dubliniensis[40].

*Candida albicans*is a symbiotic microorganism that is involved in the balance of microbes in our body and is a normal flora found in the intestines, skin and reproductive tract. Candida albicans when viewed macroscopically in the form of oval-shaped colonies. Colonies on solid media were slightly raised from the surface of the media, the surface was smooth, or wrinkled, with a yellow-white color, and had an odor like doubt. Colony size depends on age. At the edge of the colony, pseudohyphae can be seen as thin threads that penetrate the media. In liquid media, fungi will generally grow at the bottom of the tube [2].

Candida albicans has a very fast growth and this fungus can cause an infectious disease in the vaginal area which is often called candidiasis vaginitis. This disease often occurs due to the use of water in toilets that have been contaminated by Candida sp. Vaginitis is very common in women accompanied by symptoms of fluor albus accompanied by itching. Roughly speaking, Candida albicans grew on Saburo glucose atroom temperature of 25 °C to 30 °C and 37°C without the use of antibiotics to suppressbacterial growth.

Chloramphenicol is usually used. Furthermore, microscopic identification of Candida albicans is a colony growing on media and can be observed under a microscope to identify yeast cells, spores, and pseudohyphae (Pseudohyphae) [38].
Candida albicans has a growth that depends on several kinds of predisposing factors that can lead to an increase in population and cause an infectious disease that is often called candidiasis. Candidiasis is also common in the elderly, usually due to involuntary urination, incontinence [39].

Candida albicans is a type of fungus that has thin bone, Gram-positive, non-capsular yeast cells, oval to round, measuring 3-4 m. Candida albicans forms pseudohyphae, resulting in elongation, if the buds continue to grow but do not separate. The chain of cells attached to the point of separation may narrow or constrict between cells. Candida albicans is a type of fungus that can form different morphologies depending on temperature and circumstances. Candida albicans Besides being able to produce pseudohyphae and yeast Candida albicans can also produce hyphae in real shape. Candida albicans reproduces by budding known as spores [40].

Candida albicans can live very easilyon blood culture flasks and agar plates. On media, Candida albicans species are smooth, creamy white with shiny colonies. Many Candida albicans species can be easily identified using growth characteristics and commercial kits that can assess carbohydrate assimilation and fermentation reactions and identify Candida albicans isolate species for 24 days [12].

If Candida occurs in the vagina, fluconazole can be given topically or orally. Candidiasis, which is widespread throughout the vagina, is usually severe, progressive, and fatal. Candida albicans causes candidiasis, a disease of the mucous membranes, mouth, vagina, and digestive tract. Most infections are endogenous because the fungus is present in the sufferer's body, various organs, especially the intestines. Infection usually occurs when there is a predisposition. Therefore, Candida albicans is referred to as an opportunistic fungus [7].

When candida was isolated using agar, namely Saburodextris agar (SDA) or Patatodextris agar (PDA) and cultured at 37ºC within 24 hours. The growth of candida colonies on Sabourad media has characteristics that are typical. That is, the colonies protrude from the surface of the media, and the growth of the colonies is smooth, white, yellowish, and smells of yeast. Pseudohypha growths can be seen sinking beneath the agar surface. The genital tract test was then performed with serum to confirm candida and incubated at 37ºC for 90 minutes. Next, observe under a microscope to confirm the shape of chlamydspores [12].

The results of descriptive analysis, 52% respondents positive for Candida albicans fungus, research from the results of 30 elderly urine samples 20% positive for Candida albicans, Then the results showed that of 35 female elderly respondents 25.7% were positive for Candida albicans, and in the research the identification results showed that from 16 urine samples 12.5% were positive for Candida albicans [37].

RESEARCH METHODS

The research approach used in this research is a qualitative approach. Qualitative research is a descriptive research that tends to use analysis, namely to describe the presence of Candida *albicans* In the Urine of Elderly Women with Incontinence at the Griajanati Nursing Home, Gorontalo City.

The type of research used in this research is descriptive. Descriptive research aims to describe and describe a symptom, event and incident that occurred [41]. In this study, researchers described the Candida albicans fungus in the urine of elderly women.

This research was carried out from May to September 2021 starting from the proposal preparation stage to the final scientific paper report. The sampling location was carried out at the Griajanati Nursing Home, Gorontalo City. Research Locations for sample examination carried out in the Laboratory Microbiology Faculty Science Technology and Health Sciences, University of Bina Mandiri Gorontalo. The reason for choosing the research location is because based on a survey of researchers at that location there are very many elderly womenand also have health problems.

The types of data in this study were the results of the examination of the Candida albicans fungus which was carried out at the Microbiology Laboratory of the University of Bina Mandiri Gorontalo and the results of observations in the form of medical records for elderly women who had incontinence at the Griajanati Nursing Home, Gorontalo City. Sources of data in this study using a questionnaire based on the respondents' answers.

The data collection method used in this study was obtained from the identification of Candida albicans in the urine of elderly women with incontinence in the Griajanati Nursing Home, Gorontalo City. The method of data processing and data analysis used is in accordance with the approach that has been carried out, the research approach used is a qualitative approach

The data obtained were analyzed descriptively, namely describing the morphological characteristics of the fungus Candida albicans based on macroscopic and microscopic observations, then continued with identification activities for identifying activities by matching the characteristics of the fungus obtained from observations.

Culture is the result of planting on the artificial media of Sabaroud Dectora Agar (SDA), cells are cultured at room temperature for 4 days and the growing colonies are taken using an ossicle, prepared and examined using a microscope with a magnification of 10x. For their purpose and existence, or if the preparation is free from hyphae and spores.

Its growth is observed every day. Macroscopic observations carried out included the final surface of the colony (grain, velvet, cotton, flakes), colony color, presence or absence of growth zones, presence or absence of concentration lines or circles, and presence or absence of growth zones. Distinctive odor and presence or absence of drip marks. And direct microscopic examination, namely by dripping eosin solution on a slide, then the fungal colony was removed thoroughly with a sterile arc, then placed on the slide, made like a smear, then covered with a glass. object, then the preparations were examined using a microscope with a magnification of 10x-40x. This microscopic examination is done by examining the structure or arrangement of fungal hyphae and spores.

The last stage is the examination results which are positive (+), namely there are white colonies on SDA media and negative (-) results are no white colonies on SDA media.

RESEARCH RESULT

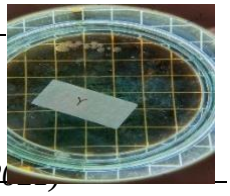
Based on the results of research that has been carried out at the Microbiology Laboratory, Bina Mandiri University, Gorontalo, it was found that some Candida

albicans fungi were found in the urine of elderly women with incontinence that were successfully isolated in pure isolates. The fungal isolates obtained were identified and observed microscopically and macroscopically.

a. Macroscopic Observation

Based on the observation of the macroscopic characteristics of the fungus Candida albicans, the results are shown in Table 1

Table 1. Results of Macroscopic Observations of Candida albicans . Fungus Isolates

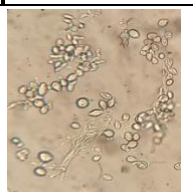
No	Characteristic - characteristic which observed	Results Observation	Picture
1.	Color colony	White	
2.	Color base on medium	White	
3.	Nature Colony	cotton fine	

(Source: Primary Data, 2021)

b. Microscopic Examination

Based on the results of observing the microscopic characteristics of the fungus Candida albicans, the results are shown in Table 2

Table 2 Results of Microscopic Observation of Candida albicans . Fungus Isolates

Characteristic - characteristicwhich observed	Results Observation	Picture
hyphae: a. Have sex / not	Not	
Blastospores: a. Is there any or no b. Shape c. Color	There is Round Transparent	

(Source: Primary Data, 2021)

From the characteristics of the macroscopic and microscopic examination, the fungus Candida albicans can be classified as follows:

Division : Thallophyt
Class : Deuteromycet
Order : Moniliase
Family : Cryptococcace
Genus : *Candida*
Species : *Candida albicans* [4].

DISCUSSION

Based on the results of research that has been carried out at the Microbiology laboratory of Bina Mandiri University, Gorontalo, in the urine of elderly women, some Candida albicans fungi with incontinence were found in pure isolates. Candida albicans is a symbiotic organism involved in microbial balance in our body and is a normal flora found in the gut, skin and reproductive tract. Macroscopically Candida albicans can be seen in the form of a circle, oval. Colonies on solid media were slightly raised from the surface of the media, the surface was smooth, or wrinkled, with a yellow-white color, and smelled like yeast. Colony size depends on age. At the periphery of the colony, pseudohyphae may appear as thin threads that penetrate the media. In liquid culture media,

The process of excessive growth of Candida albicans will cause an infectious disease that occurs in the vaginal area which is often called candidiasis vaginitis. This disease can infect a person if someone uses water that has been contaminated with Candida albicans. The fungus Candida albicans always causes infectious vaginitis in women, with the main symptom that will arise is fluorinated albicans, which is accompanied by itching [25].

Roughly speaking, Candida albicans grew on Saburo glucose at room temperature of 25 °C to 30 °C and 37 °C without the use of antibiotics to suppress bacterial growth. Chloramphenicol is usually used. Furthermore, microscopic identification of Candida albicans is a colony growing on

media and can be observed under a microscope to identify yeast cells, spores, and pseudohyphae (Pseudohyphae) [39].

*Candida albicans*have growth that depends on several kinds of predisposing factors that can lead to an increase in population and cause an infectious disease that is often called candidiasis. Candidiasis is also common in the elderly, usually due to involuntary urination, incontinence.

*Candida albicans*is a type of fungus that has thin boned, Gram-positive, non-capsular yeast cells that are oval to round and 3-4 m in size. Candida albicans will form pseudohyphae if the buds grow continuously but do not separate. Long chains of cells attached to the point of separation will narrow between cells. Candida albicans is dimorphic. Candida albicans can also produce visible hyphae besides being able to produce yeast and pseudohyphae. Candida albicans reproduces by buds, which are called spores.

Candida albicans can grow very easily on blood culture flasks and agar plates. On medium Candida albicans fungus will form smooth colonies, and creamy white with shiny colonies. There are several types of Candida albicans that are very easy to find based on their growth properties as well as commercial kits that evaluate carbohydrate assimilation and fermentation reactions and provide species identification for Candida albicans isolates for 24 days. When Candida was isolated using agar medium, Sabouraud dextrose agar (SDA) medium, and cultured at 37°C for 24 hours. Growth of Candida colonies on the media. Sabouraud is a hallmark. Colonies will emerge from the surface of the media, and the surface of the colonies is smooth, yellowish white, and smells of yeast. Pseudohypha growths can be seen sinking beneath the agar surface. Subsequently, a genital tract test was performed with serum to confirm Candida and incubated at 37°C for 90 minutes. Next, observe under a microscope to confirm the shape of the chlamydospores [12].

Candida albicans is a type of fungus that causes pathological secretions from the vagina and is the most pathogenic of several other types of Candida albicans. Candida albicans is one of the common flora found in the vaginal area. Under certain environmental conditions with poor personal and environmental hygiene, mold can grow and cause infection. Candida albicans grows rapidly in warm and humid conditions at a temperature of 2537 ° C, with an acidic pH of 5.6, while the normal pH of the female reproductive organs is pH 3.54.5. Yeast infections tend to grow on a large scale and quickly.

Aging is not a disease or disease, but a process of change that increases sensitivity or reduces the limits of adaptability, often referred to as a geriatric giant, and the elderly can move. (tend to tipping), intellectual disability (dementia), isolation (depression), incontinence, impotence, immunodeficiency, infectious disease, frequent. Urinary incontinence is one of the most common health problems in the elderly. This is rarely communicated by the patient or family members and does not require treatment, as it is considered embarrassing (taboo) or natural for the parents. Urinary incontinence is not seen as a disease, but as a symptom that causes various health, social and psychological problems and can reduce quality of life. Urinary incontinence is the involuntary passage of urine at an undesired time (regardless of frequency or volume), which causes social and hygienic problems for the parties involved. Urinary incontinence has medical, psychosocial, and economic implications. Several conditions commonly associated with urinary incontinence, including skin and sleep disorders, have psychosocial and economic

consequences such as depression, irritability, isolation, loss of self-confidence, limited social activities, and high medical costs. Poor sleep quality is caused by the environment, unpleasant sleep, getting up to urinate at night, and stress [5]. Urinary incontinence has medical, psychosocial, and economic implications. Several conditions commonly associated with urinary incontinence, including skin and sleep disorders, have psychosocial and economic consequences such as depression, irritability, isolation, loss of self-confidence, limited social activities, and high medical costs. Poor sleep quality is caused by the environment, unpleasant sleep, getting up to urinate at night, and stress [5]. Urinary incontinence has medical, psychosocial, and economic implications. Several conditions commonly associated with urinary incontinence, including skin and sleep disorders, have psychosocial and economic consequences such as depression, irritability, isolation, loss of self-confidence, limited social activities, and high medical costs. Poor sleep quality is caused by the environment, unpleasant sleep, getting up to urinate at night, and stress [5].

This study is in line with research which states that the presence of the fungus Candida albicans in the urine of elderly women with incontinence is caused by urinating consciously or unconsciously due to age so that elderly women are lazy. . It moisturizes the vaginal area and induces Candida albicans. Second, vaginal discharge causes the appearance of the fungus Candida albicans in the vagina. Vaginal discharge in older women can be caused by pathological factors such as diabetes and non-pathological factors including incontinence. The results of this study found that the detection of Candida albicans in the urine of elderly women with positive incontinence occurred in 15 respondents (100%) [48].

Lifestyle is one of the factors that cause vaginal discharge, and pathological vaginal discharge is an early symptom of reproductive system disease. Cleanliness is very important and must be considered, especially in the elderly, because cleanliness affects human health. A bad environment can also cause Candida albicans. Candida albicans can be transmitted unknowingly or unconsciously through urine that comes out of the vagina. This is often referred to as incontinence. Candida albicans can grow at large pH fluctuations, but grows better at pH between 4.565. This fungus grows in the hatchery at 28°C and 37°C. grow up.

CONCLUSION

Based on the results of the identification of the fungus Candida albicans in the urine of elderly women with incontinence at the Griajanati Nursing Home, Gorontalo City, it was found that some of the urine of elderly women contained Candida albicans fungus which was successfully isolated in pure form.

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