OVERVIEW OF ASPERGILLOSIS A FUNGAL DISEASE IN POULTRY AND ITS EFFECT ON POULTRY BUSINESS

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ABSTRACT
Aspergillus fumigatus is the causative agent of the aspergiliosis and it is an infectious disease caused by the fungus. The infection is caused by the inspiration of fungal spores and these spores also contaminate the egg and are transferred from the egg shell. This disease is commonly occurred in the acute and chronic form. Acute form occurs when the birds inhale large no of fungal spores and the chronic form occurs when the birds are immuno suppressant or weak immune system. Anorexia, gasping sound, dyspnoea are the clinical signs of the disease. Pea size granulomas white to yellowish color are the gross lesions pulmonary blood vessel congestion is seen microscopy. History, necropsy, sign symptoms and history are used for the diagnosis of the disease cultures of the fungus and biochemical changes are also involved during this process. There is no proper treatment of this disease and the way to control this disease is its prevention. Prevention of wet litter and soil proper fumigation and disinfection of the poultry utensils feeding and watering line sanitization are the best methods to prevent the disease and helpful in its control.

Keywords: Aspergillosis, Aspergillus Fumigatus, Pathology, Prevention, Treatment, Control in poultry

INTRODUCTION
The COVID-19 pandemic is a disaster that suddenly occurred and prompted changes in human behavior since 2020. This COVID-19 pandemic spread rapidly throughout the region and caused around six million five hundred people in the world to be infected with the virus. Based on data disclosed from the WHO (2020) said that the current pandemic has caused the death of approximately three hundred and fifty people from all over the world globally. In Indonesia, this pandemic has also spread to all regions without exception. This pandemic spreads very quickly, since it was officially announced in March 2020, there has been a continuous increase in the number of cases. In this case, it indirectly forces individuals to limit their activities. The World Bank (2020) explained in its latest report that this pandemic is hitting the global economy.

The economy is currently fragile and is trying to crawl up. In Purwono (2020) explained that the crisis that occurred was not only in the economic sector, but also the crisis occurred threatening public health as a whole without exception, not only a few fatalities,
economic activities that occurred simultaneously greatly decreased both the community as consumers, the community as producers, and governments in implementing regulations and making decisions. In the short term the impact can cause a significant downturn in the economy, and in the long term economic recovery will be quite difficult because it results in a decline in productivity in the economy.

The development and competition of the business world is now increasingly rapid, thus requiring every company to utilize its capabilities as much as possible in order to become the best in the business world. The COVID-19 pandemic has an impact on accelerating digital transformation as explained in Candra (2021). Developments in general up to now, insurance companies are companies engaged in services whose function is to provide health insurance for the wider community. One of the functions of the insurance company is to determine the amount of premium that must be paid by each insured against the risk transferred and to process the existing funds. The purpose of the insurance company itself is to provide protection, especially in this case in the health sector. In Doni (2020) said that the general definition, an insurance company is a service institution that makes an agreement in this case an insurance agreement with customers who register and pay regular premiums every certain period, besides that this company will provide all protection from losses. losses that may be experienced by the customer concerned. Problems or phenomena that occur such as fraud in the accounting field in insurance companies can occur because there are opportunities to commit such fraud.

The phenomenon of accounting fraud that occurs in insurance companies which is currently being discussed in the media is the insurance case of PT Asuransi Jiwasraya (Persero) hereinafter abbreviated as Jiwasraya. In Machril (2022) it is stated that Jiwasraya is said to be unable to pay the claim debt with a total of Rp. 1.7 billion due to cash flow problems. Sampurna (2020) explains that Jiwasraya's financial benefits, since 2006 have not been clear on the nominal and whereabouts of the profits. These profits are obtained through the engineering of financial statements. It can be concluded that since 2006 Jiwasraya has actually made a profit, but the profits obtained are pseudo or unclear, this can occur as a form of cause and effect due to accounting engineering. Sampurna (2020) further explains that in 2017, Jiwasraya earned a profit of approximately two trillion rupiah, unfortunately the income received is considered irrelevant because of fraud in the provisions of the seven trillion rupiah price range. Furthermore, in 2018 Jiwasraya was assessed to have suffered a loss of approximately fifteen trillion rupiah. Meanwhile, in September 2019, Jiwasraya lost approximately thirteen trillion rupiah.

The deteriorating budget until November 2019 led to a price range of twenty-seven trillion rupiah. This loss may have occurred because since 2015 Jiwasraya has been selling high-interest products above the deposit, namely the savings plan product. Funds originating from the saving plan product are invested in low quality mutual funds so that the spread is negative. The product savings plan does indeed play a significant role in the highest revenue since 2015 as written in Dalam Sampurna (2020). However, this product also offers high interest rates with additional insurance benefits and without thinking and considering the costs of the insurance products sold. As explained in Burhanuddin (2021) said that the defendant had received a commission in the form of an illegal management fee and harmed Jiwasraya's interests as a customer in making investment decisions.

Every company needs an information system that is able to create, capture and produce information for internal and external parties more effectively. Based on Halimatusadiah and Gunawan (2014) emphasized that every good company management must be supported by good company control and management. So that any information can be
provided on time and produce correct information, and can minimize fraud in the presentation of information.

One of the controls used to support this can be done using GCG principles. Today, Prima and Putri (2020) explain that, in practice, there are still various obstacles from the implementation of accounting information systems. Constraints are felt starting from the information system presented that is not in accordance with the needs of the organization, to the use of information systems that reduce organizational performance. In Maruta (2015) explains that the existence of accounting is a tool used as a language of business (language of business) which aims to provide information that can be used in the decision-making process by managers. The purpose of this study is to examine, namely: the relationship between the implementation of accounting information systems and corporate governance in Indonesia.

**RESEARCH METHOD**

Aspergillosis is caused by Aspergillus fumigatus and it is an infectious disease which does not spread and the mould of this fungus is spread worldwide which is ubiquitous, saphrophytic mould [1, 2]. It occurs the respiratory tract most often and it causes a lot of the mortality and morbidity due to Aspergillus [3]. This disease effects the lower respiratory tract and is spread by the managerial issue which causes a lot of the economic lose in the poultry sector [4]. Inward breath of A. Fumigatus agamic spores (conidia) can cause a wide scope of clinical indications relying on the insusceptible status of the bird [1, 2]. Intense aspergillosis happens in youthful birds bringing about high bleakness and mortality. Ongoing structure is inconsistent and caused less no of deaths as mortality which influences more established birds just, with immunosupression because of helpless cultivation rehearses. Helpless disinfection and helpless ventilation in the house as well as feed pollution improves fungal development and builds the chance of attack via air borne particles such as spores [4].

**RESULT AND DISCUSSION**

Polymorphic clinical form are developed in the birds which are suspect able to the disease and they may be localized or non localized lesion. Aspergillosis is occurred only two type one is acute type while the other is chronic type of the disease the acute occurs when the duration is less the one 1 week and in chronic form it takes up to the months. Acute form is due to the inhalation and chronic form is due to weak immune system [16].

A. Acute stage

High mortality is seen in the acute form of the disease the signs include the dyspnoea, high anorexia and cyanosis and sometimes the small chicks die without showing any clear sign and symptoms this is called sudden death (Peracute).

B. Chronic stage

It is more normally seen in the aged birds. The clinical signs incorporates inappetence, skinniness, dyspnea, panting, expanded thirst, fever, the runs and indications of apprehensive contribution [17]. Visual changes incorporate ophthalmitis, blepharospasm, photophobia, and Mycotic keratitis (periorbital and eyelid enlarging with messy yellow exudates in the conjunctival sac [18, 19] as well as necrotic granulomatous dermatitis [20]. The neurological or nervous signs incorporate loss of motion, ataxia, quake, torticollis, faltering, seizures, opisthotonous condition [21, 22, 23, 24].

**Gross Lesions**
Lungs are the prime location for the infection air sac and some other organs may also be got effected. The upper respiratory tract mostly gets involved in the disease before the disease has shown its clinical signs yet the common lesion is consisted of the white yellowish granules which range from the miliary 2cm involving the serosae and the parenchyma cells of one [25] or multiple organs. One or more necrotic areas are visible on the ruptured surfaces and the parenchyma of lung are consolidated with the granules of the various measurements in the sizes [26, 27, 28]. While mixing in air sacs, granulomas structure messy caseous plaques on thickened films where fungal sporulation might happen as proven by dark greenish velvet [13, 21, 22, 28, 29]. In the broiler breeder’s cerebellum (a part of brain) white to greyish type of area was observed [21].

Microscopic lesions
The microscopical injuries noticed are clog of pneumonic and peri-alveolar vein, perivascular form of the edema. The ordinary construction of the lung and air sacs were supplanted by pyo-granulomatous foci. The focal point of the granulomatous foci contained caseous putrefaction and the type of necrotic cells trash encompassed by penetration with provocative cell which are like the heterophils, lymphocytes or macrophages with the multinucleated goliath cells was seen. The knobs comprised of coagulative necrotic focus. Central incendiary sores were available on pleura and the hidden lungs lobule [31].

Diagnosis
As we know that the sign of this disease are not specific so that it makes the disease more difficult to diagnose. The diagnosis of this disease is Based on the signs, historical findings and postpartum plus the hematological finding, biochemistry of the blood and serological changes involved and culture of Aspergillus fumigatus regular diagnosis is commonly based on the postpartum of the dead bird and by seeing the nodules in lungs and air sacs because the diagnosis is difficult in other ways [32]. The historical backdrop of the poultry uncovers the distressing occasion, natural elements and invulnerable immunosuppressive condition. These tissues were to tests (lungs, windpipe, pharynx and thoracic air sacs similarly different organ) fixed 10% of unbiased cradled formalin are handled and implanted in paraffin obstructs and stained with haematoxylin and eosin (HE) strategy. Other exceptional stains, for example, Periodic corrosive Schiff (PAS), Bauer's and Gridley's stains, Grocott's and Gomori Methanamine Silver stain effectively recognize the hyphae and mycelia of organism. The pathogenic organic entity can be disengaged by refined on Sabouraud's glucose agar and anti-infection agents are hatched at the 37°C until 24 hours with trademark conidial head and settlement [33]. F

Treatment
Aspergillosis treatment isn't compelling a direct result for diminished poultry bird incendiary reaction to the drug. Guess of these illness is helpless as there are broad diseases into the tissues and it’s just foundational type of drug which are utilized. The best treatment is through the skin alongside deliberate treatment. It includes the utilization of at least one fundamental antifungal specialists like - itraconazole, ketoconazole, clotrimazole, miconazole, fluconazole and Amphotericin B. Be that as it may, itraconazole is a decision for this type of the fungal disease [31].

Prevention and control
Vaccination is not commonly practicable in the case of aspergillosis so it does not have any effective kind of the treatment its control only depend on the control of the exposure of this disease it can be prevented at hatchery level by the proper sanitization the moldy feed and litter are the causes of spread and they could be cleaned with antifungal compounds to prevent
the spread of the disease [34]. Remove the old litter which has mold or is contaminated with the fresh new sanitized litter inside the poultry farm. All the incubators and haters plus other equipment’s should be properly disinfected and cleaned with formalin. With the dose rate-120-360 g/m3 of formalin all the hatchery building should be cleaned and equipment’s should be sanitized [35].

Social Importance/Effect on Poultry business

Aspergillosis have social impact as it can cause major lose in poultry by effecting poultry birds. It effect the bird which can cause mortality while mortality directly leads to lose. So we have to diagnose that disease by this we can minimize the financial lose this thing shows that Aspergillosis have high social impact and can effect on poultry business.

CONCLUSION

To prevent the economic losses due to this type of diseases one should properly clean the poultry farm. There should be proper disinfection in the shed. Avoide the overcrowding inside the shed feed should be clean and free from contaminants. The utensils should be clean and the shed should be treated with effective antifungal substances. Remove or cull the infected birds and also use the mould inhibitors on the feed and feed storage room to prevent the spread of disease as outbreak.

First of all we have identified the disease then we should apply treatment methods as some symptoms of other disease can match that disease Like in Avian corona virus (Infectious bronchitis there is also respiratory problems [36,37,38]

REFERENCES


