

FROM THE DAILY STUDIES AT THE LABORATORY FOR POULTRY DISEASES

**A LOOK AT THE POULTRY DISEASES IN THE PROVINCES
OF CENTRAL ANATOLIA**

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Within the last five years, leaving aside the umbilical infections of the newly born chicks, the defects of incubation and malgrowth of the chickens and pullets resulting from different reasons, the following is the list of the diseases in their respective order, according to the results obtained from the specimens pertaining to the birds sent to our laboratory from Ankara and cities in the vicinity for the purpose of diagnosis. (See the attached table)

- 1 — **Salmonella pullorum - gallinarum infections**
- 2 — **Newcastle disease**
- 3 — **Parasitical diseases especially ascariasis and coccidiosis**
- 4 — **Infectious Coryza**
- 5 — **Mycoplasmosis (R.C.D.)**
- 6 — **Lymphomatosis and neuro - lymphomatosis (leucosis complex)**
- 7 — **Tuberculosis**
- 8 — **Colera avium**
- 9 — **Infectious synovitis**

For the diagnosis of the disease, first of all the historic information and then clinical observation and the pathological findings are essential. For the differential diagnosis, bacteriological, virological, serological, histopathological and parasitological examinations are carried out in our laboratory. The department of pathology at the Ankara University helps us With the histo-pathological examinations and the Laboratory of Parasitology at our Institute helps us with the parasitological.

Thinking that it would be helpful, we would like to give brief explanations about the above-mentioned diseases :

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1 — THE INFECTION OF SALMONELLA GALLINARUM PULLORUM :

It is a type of infection known for a long time and always found in the birds in Ankara and the provinces in the vicinity. At present, the disease is very common at the poultry houses where village type poultry is carried out comparatively less common at the houses where the poultry activities are dense and scientific.

Within the last five years, the percentage of Salmonella infection has gone up as much as 19,28 % at the examinations of the specimens sent to our laboratory for the purpose of diagnosis.

According to the symptoms observed during the clinical and autopsical examinations of the diseased dead chicks and chickens and the biochemical characteristics of the strains isolated at the laboratory, the infection in question is Salmonella and the strains with respect to their antigenical nature are variant types of Salmonella pullorum.

The Disease, at the beginning, especially among the pullets that have just started laying and mature hens, manifests itself in its acute form and later becomes chronic. It is hardly found in the chickens or during the incubation period.

According to the Law and regulations of health Discipline, it is obligatory to report this disease and government is active in combating the disease. For this reason, all the hens at the official and private places where the hens are kept for breeding or eggs, hens and cocks are sold, are examined for the existence of any Pullorum disease using the blood test with polyvalent pullorum antigens. If necessary, their bacteriological and serological examinations are done at the laboratories. When the disease is diagnosed, all the precautions are taken such as discontinuation of porters, stopping the incubation, necessary disinfection and the continuation of monthly blood tests until the last two tests prove to be negative. The struggling against the disease is not only based upon the vaccination.

Combating the disease has given good results by decreasing every year the number of hens that have the disease. However, we should mention the fact that it exists in the poultry houses where eggs and hens are to be butchered are grown and time to time it spreads to the hens at the places which are under regular control.

2 — NEWCASTLE DISEASE :

According to the information available, the Newcastle disease in Turkey was first found out about in 1944 and has become epidemic all over the country. Turkey is still infected with this disease.

The disease was found in the 18,18 % of the specimens sent to our laboratory to be examined.

The number of the incidents usually increases in spring and autumn when the terribly cold rainy. The disease mostly spreads to the healthy farms by the way of people who travel among villages for the collection of eggs and hens.

Approximately 10 % of symptoms of the acute incidents pertain to the nervous system and 90 % to the respiratory and digestive systems.

The number of deaths is small when the symptoms pertain to the nervous system. However, the hens remain paralyzed.

It may appear in mild form that only reduction of egg production is common temporarily .

The newcastle disease has not been found in the younger chicks than one month except for the chicks and chickens of some institutions where the poultry of cultural race is raised.

No instance of the disease has been found at our laboratory among ducks and turkeys.

To combat this disease is extremely difficult because there still exists primitive way of raising poultry beyond control of any type. This serves as a source of infection for those who are involved in raising poultry in great numbers and in scientific manners.

Combating is done mainly by protective vaccines. However, in the poultry houses where the disease is found out about, the affected ones are killed and the rest are vaccinated.

The vaccines used are produced in our laboratory. They are live vaccines which are applied by injecting intra muscularly and instilling in drop by drop into the nose and eye. Besides, in the last years, the type of vaccines inactivated in Beta - propiolactone and adsorbed on aliminum hydroxide gel have come into use. It is just started to prepare attenuated vaccines applying on animals by pulverization and adding it into their drinking water.

The states want the disease to be reported and combated. Combating is done by the government veterinarians according to the Law and Regulations of Health Discipline.

3 — PARASITICAL DISEASES :

In the affected birds sent to the laboratory for the purpose of diagnosis, 10 % *Ascaridia galli* and *Heterakis gallinae*, 7 % different kinds of *Coccidia oocystes*, 0,4 % *Railletina echinobothrida*, *R. cestecellus*, *Choanotaenia infundibulum*, and very little *Histomonas meleagridis*, *Dermanyssus gallinae*, *Gonicotes gigas*, *Eumenacanthus stremineus* have been found.

Some of the helminths found in birds do not cause any noticeable defects but some others cause loss in great numbers, no matter how small numbers of them are determined.

Coccidia are found mostly in the chicks and chickens of between ten days and six weeks old. During the above mentioned time, *Eimeria tenella* which always causes localization in secum is found alone. The percentage of death is high in some poultry farms.

Eimeria acervulina, *necatrix maxima* cause the disease and are found in the chickens older than three months and hens. The percentage of death is comparatively low.

Generally, the animals are found to have various parasitical infestations in their late stages, because it is not always possible to have hygienic conditions and rational feeding and care on the poultry farms. It is only when these infestations reach their acute form that medicine is given and hygienic conditions are taken into consideration.

4 — INFECTIOUS CORYZA :

This disease of respiratory system caused by *Haemophilus gallinarum* has an incubation period which lasts one to five days and the normal course of the disease lasts ten to fourteen days. The infection takes place through direct contact or through the air. The role of the parasitical infestations and application of the live vaccines is great in the infectious characteristic of the disease. In addition, as a result of keeping large numbers of animals in the same poultry house and their mal-nutrition during the long winter months in those areas where the climatic conditions are not favorable, the disease becomes rooted. Most of the time, it takes place at the same time as Mycoplasmosis (C.R.D.), Flu and the swelling of the face are the main characteristics of the disease. As

a result of many recovered hans serving as porters and the negligence of the proper and preventive precautions, the infection lasts several years on the poultry farms where it first started. The veterinarians that work for the goverment do not intervene as it is not included among the diseases listed in the Law and Regulations of Health Discipline. However, good results are obtained from the treatment done by adding sulphamid to drinking water.

5 — LYMPHOMATOSIS (Lecosis complex) :

29 incidents have been diagnosed from the specimens sent to our laboratory during the last five years. (Most of these incidents are determined to be lymphoidic leucosis and a few to be neuro lymphomatosis). However, we believe that the disease takes places in high percentage among the hens of cultural race of the poultry farm where they raise poultry in large numbers and in scientific manners. The reason why the disease does not appear to be common is that the hens that manifest suspected symptoms are killed without being sent to the laboratory.

No incident of leucosis has been detemined in our laboratory among the native hens. These are thought to have special immunity.

No vaccines or treatments are applied to combat the disease. The only precautions are the following : To kill those that are affacted hens for hatching purposes et. c.

6 — MYCOPLASMOSIS (C.R.D.) :

This disease, caused by *Mycoplasma gallisepticum*, is usually complicated by a secondary bacteriological infection (Infectious Coryza) or another virus (Lentogen form of Newcastle).

This disease is quite widespread among the hens, according to the results of the inverstigations done during the recent years, (These investigations have been carried out by Ahmet Sipahioğlu, Specialist at our laboratory, with the Myco - antigens of the Merieux Laboratories in France).

The parasitical infestations, vaccinations with live vaccines, the unfavorable hygienic conditions and care play a great part in starting and spreading the disease. The chickens get the disease from direct contact with the porters or it spreads to the chicks congenytally through eggs. Running of the nose and eyes, swelling of the face, fatigue, yawning, and bad smell are observed about the affected chickens. In autopsy, it is found that the chickens are terrible week and they have rinitis, sinusitis, conjunctivitis and imflamation of air sacs.

The governmental veterinarians do not intervene as it not obligatory to report this disease according to the Law and Regulations of Health Discipline. The precautions are as follows : the infected chickens are isolated, the number of the chickens is gradually decreased in the poultry houses, various antibiotics are added to their water and food, to keep the poultry houses empty for a month before new and healthy chickens are placed and to use preferably the eggs of the old birds for hatching purposes.

7 — TUBERCULOSIS :

The tuberculosis in birds is an infectious and gradually developing disease caused by a special asido - alcohol - resistant bacillus called *mycobacterium tuberculosis avium*. It is characterized by the development of tubercles which have a tendency to be caseification. This disease, which has so long a period of incubation as one to eight months, is found in the hens of cultural race rather than native hens. The eggs play a part in spreading the disease.

The tuberculin prepared with Gallinaceus type in our country are used for the purpose of diagnosis.

Tuberculosis is among the diseases included in the Law of Health Discipline. According to this law, combating is done in the following manner. The suspected chickens are killed and sent to the laboratory to be diagnosed. The tuberculin is applied to the chickens in the poultry houses where tuberculosis is found. The chickens that show positive reactions are killed and the application of tuberculin is continued every other month until no chickens with positive reaction are left. These poultry houses are disinfected with soapy hot water and caporit, the manure is buried. The newly bought chickens are applied tuberculins and those that are older than two years are killed.

A complete success has not been reached in our country, in combating the above mentioned infections and parasitical chicken diseases, in spite of the fact that the production and application of vaccines increase every year and the production of effective vaccines has started. The reason for this is that our poultry is still isolated and in the form of village poultry and rational care and feeding is not yet possible.

The poultry industry in Turkey is still undeveloped and the raising of poultry is individual in the villages and the same time care and feeding is not rational.

T A B L O (Table) : I.

Seneler (Year)	Muayene olunan marazi madde adedi (The number of the specimens examined).	TESBİT EDİLEN HASTALIKLAR (The diseases that are found)													
		Salmonella Pullorum - Gallinarum	Newcastle	Infectieuse Coryza	Lymphomatosis neuro - lymphomatosis	Mycoplasmosis C.R.D.	Tuberculosis	Variola Avium	Colera Avium	Infectieuse synovitis	Ascariidiosis	Coccidiosis	Taeniasis	Black - head	Tavuk Biti Lice
1958	127	24	17	11	9	—	—	—	—	—	10	15	4	2	—
1959	189	11	36	11	3	—	—	—	1	I	27	50	1	—	3
1960	351	105	73	32	—	—	14	—	—	—	19	—	—	—	1
1961	278	55	35	5	6	20	5	—	—	—	55	5	—	—	—
1962	248	35	56	—	11	5	2	I	—	—	28	11	—	—	—
Y e k ũ n (Total)	1193	230	217	59	29	25	21	1	1	I	139	83	5	2	4

Karacabey Harasında Sıkıt Yapmış Olan Kısrakların Kan Serumlarının Virüsü Sıkıt Bakımından Complement Fixation Testiyle Yapılan Muayene Sonuçları

Mes'adet Doğuer (*)

Dr. Salih Yılmaz (**)

Etilik Veteriner Bakteriyoloji Enstitüsü Dergisinin cilt : 1, sayı : 5, Haziran 1962 sayısında neşredilmiş olan «Karacabey Harasındaki kısrağın sıkıtlarının etkenini tesbit maksadiyle yapılan araştırmalar» adlı mesaimizde bu vak'aların bir virüstan ileri geldiğini tesbit etmişsekte virüsün tipini henüz tayin edemediğimizi ve Virüsü abortus equi bakımından Türkiye'de serolojik muayeneler yapılmadığından haranın o sene sıkıt yapmış olan kısraklarının serumlarını Macaristan'a göndermek için teşebbüse geçtiğimizi bildirmiştik.

Prof. R. Manninger Budapeşte, 19 Temmuz 1962 tarihli mektubunda, Macaristan Sefareti vasıtasıyla, ilk parti gönderilen serumların yolda bozulduğunu, fetüslarda tesbit edilmiş olan patolojik bulgulara göre sıkıt vak'alarının Enfluenza (Virüsü - abort) virüsünden mütevellit olduğuna inandığını bildirmiştir. Vaziyet Tarım Bakanlığına arzedilmiş ve aynı zamanda Karacabey harasından 5. 9. 1962 gün ve 383 sayılı yazımızla tekrar serum istenmiştir.

Karacabey harasından 12. 9. 1962 gün ve 1859 sayılı yazı ile gönderilmiş olan 13 kısrağın serumu yine Macar sefareti kanaliyle Prof. Manninger'e gönderilmiş, kısrağın Enfluenza virüsüne karşı serumlarda antikör aranması maksadiyle Complement - fixation testiyle yapılan muayene neticesinde 39/46, 13/57, 33/51, numara ve doğumlu kısrağın ait serumların müsbet, 5/45 ve 14/57 numaralıların şüpheli, diğer 7 adet serumun menfi reaksiyon verdiği, 96/56 numaralı serumun ise kırık çıktığı bildirilmiştir.

(*) Yetiştirme Hastalıkları Lâboratuvarı Şefi.

(**) » » » » Mütahassısı.

24. 10. 1962 gn ve 441 sayılı yazımızla Tarım Bakanlıđına da arzedilmiş olduđu veçhile ilk partinin bozulması sebebiyle sıkıt yapan kısıraklardan sıkıt tarihinden takriben 6 - 7 ay sonra kan alınmış olması, bazı kısırakların kan serumlarında antikorların kaybolmasına sebep gösterilebilir. Mevcut literatr bilgisi de bu grşmz teyid etmekte olup, enfeksiyonu mteakip antikorların kan serumunda ikinci haftanın sonunda teşekkl edip ekseriya bir kaç ay devam ettiđi bildirilmektedir.

Avrupa memleketlerinde bu mevzuda sahibi selâhiyet bir otorite olan Prof. R. Manninger'in de gnderdiđimiz sıkıt yapmış kısırak serumlarında Complement - fixation testiyle beygir Enfluenza virusuna karşı antikor tesbiti Karacabey Harasındaki kısıraklar arasında seyretmekte olan Epizootik sıkıtlar dolayısıyla yaptığımız araştırmada bulunduđumuz neticeyi teyid etmektedir. Ayrıca Prof. R. Manninger'in bu husustaki mektubunun fotokopisi de neşredilmiştir.

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JÁRVÁNYTANI INTÉZET
BUDAPEST XIV., HUNGÁRIA KORÚT 23.
TELEFON: 296-623.

Budapest, den 9. Oktober 1962.

Prof. Dr. R. Manninger:

Herrn Direktor Ahmet Özsoy

Vet. Bakt. Ve Seroloji Enst.

Etlik/Ankara.

Sehr geehrter Herr Kollege!

Mit Bezugnahme auf Ihr Schreiben vom 18.9.1962 teile
Ich Ihnen mit, dass wir 12 Pferdeseren in gutem Zustand
erhalten haben; die das Serum eines 13. Pferdes enthaltende
Phiole ist leider zerbrochen angekommen. Die Untersuchung
der 12 Seren hinsichtlich des Vorhandenseins von Antikörpern
gegen das Virus der Pferdeinfluenza hat zu folgendem Ergebnis
geführt:

Positiv ist das Ergebnis der Komplementbindungsprobe
ausgefallen mit den Seren: 39/46, 13/57 und 33/50, negativ
mit den Seren: 60/56, 78/57, 60/55, 17/57, 95/57, 5/56 und
50/44, zweifelhaft mit den Seren: 5/45 und 14/57. Zerbrochen
kam an die Phiole: 96/56.

Mit freundlichen Grüßen

Ihr

yetisizme lab. 5.

18.10.1962.

md

Öz. a. 3


/ R. Manninger

18.10.1962
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