The occurrence of human brucellosis in Malta is of long standing and has presented various problems ever since it became accurately diagnosable and clearly distinguishable from other prolonged fevers. Between 1896 and 1964 incidence has ranged from a maximum of 81.6 per 10000 inhabitants in 1946 (2410 cases) to 1.7 in 1964 (56 cases). In 1939 centralised pasteurization of milk was introduced but only in a small area (Valletta and Floriana), with a population of about 24000, was the introduction and use of unpasteurized milk then forbidden by law. Gradually this prohibition was extended until it became complete in 1964, the last area in which the ban was made effective being the island of Gozo which, with a population of about a tenth of that of the two islands, had an incidence of brucellosis ranging from a sixth to as much as half of the total number of cases over the period 1953 to 1969. (Agius, 1965)

Between 1956 and 1969 an intensive study of the disease in the animal population in Malta and of the possible means of preventing it was carried out by an expert working for F.A.O./W.H.O. and the Government of Malta, in conjunction with Government veterinary officials and others. A vaccine was tested, found to be effective and safe and put to limited use. Various measures were taken to control caprine and bovine brucellosis and a decrease was noted both in the animal and in the human incidence of the illness. (Alton G. G. 1968). The reported incidence in man since 1964 has been as follows: 70 cases in 1965, 24 in 1966, 29 in 1967, 14 in 1968, 57 in 1969, and 51 in 1970. Throughout this period the population can be considered to have remained stable at about 320,000. The fact stands out that by 1968 a record lowering of incidence had been obtained and one could reasonably have begun to hope for eradication of the illness. This could only be attained by the eradication of the disease
in the animal reservoir such as has in fact
been attained in some countries.

The incidence since 1968, however, is
disturbing for instead of the expected
further decreases or, at least, stabilisation
of the position, there have been notable
rises. The writers, working in the Bacte­
riology Department of the main and by far
the largest general hospital in the island,
have an opportunity of learning about the
occurrence of cases and they believe that
the real number of cases is certainly
greater though not very markedly so than
the number of cases reported. There is
often some doubt about the point at which
a positive agglutinin titre can be consi­
dered as diagnostic of an active and pre­
sent infection but the incidence would be
still higher, judging by laboratory findings,
than the reported incidence even if only
a titre of 1/320 or higher is taken as signi­
ficant. In 1970, for example, there were
12 such cases including two with a posi­
tive blood culture. Failure to notify does
not generally arise from a reluctance to
accept the agglutination reaction( at least
at 1/320 or higher) as a positive finding
but through other causes often purely
fortuitous. In fact it is probable that
some cases with a titre below 1/320 may
be ones of active brucellosis; one such case
with a titre of 1/80 had a positive blood
culture. In view of this it is likely that
the real number of cases markedly ex­
ceeds the reported incidence. This is not
surprising since this occurs everywhere
to a varying extent and can be allowed
for. However in our environment and
under the prevailing circumstances this
has a particular importance. When era­
dication is being aimed at completeness
of notification becomes vital, since the
origin of every case must be accounted
for. In brucellosis fortunately the human
patient is not very important as a cause
of other cases but even this aspect should
be considered.

How can the cases which have arisen
since 1968 be accounted for? The ques­
tion is not easily answered. Obviously
the first point to consider is whether
pasteurised milk could have led to infe­
tion. In fact a close surveillance of the
whole process is maintained, most of it
being of an automatic, self-registering
character. Surveillance is exercised over
milk as it reaches the consumer both by
the laboratory attached to the Milk Mar­
teting Undertaking and, quite indepen­
dently, by the laboratory at the Head Of­
vice of the Health Department, a large
number of samples being regularly exa­
mined every week. (Report, Health Dept.
Malta). No test has ever shown any fault
in pasteurization or anything to suggest
the possibility of pathogenic micro-orga­
nisms having survived the heat treatment.
It is also probable that if unpasteurized
milk had ever gone out to consumption
there would have been a noticeable out­
break comparable in character to that of a
water-borne epidemic; this has not been
the case.

In every reported case the Health
authorities carry out a close investigation,
which generally, but by no means always,
leads to suspicion being cast on some
definite way of infection. Between the
7th and the 22nd March 1969 a milk sup­
pliers' strike led to a suspension of the
pasteurized milk service. It was still ille­
gal to sell unpasteurized milk throughout
that period but obviously the temptation
for the milk producers to sell milk ille­
gally was very great. At St. Luke's during
the first 3 months of that year there had
been only 5 cases of brucellosis whilst
there were 57 cases by the end of Decem­
ber. In 1970 there was a similar strike
from the 14th to the 28th April; there had
been 22 cases up to April and there were
60 cases in the remaining 8 months. It
was not possible to explain every case on
this basis; in fact this would apply only
in a few cases.

Frequently, questioning rules out the
possibility of the infection having arisen
from the consumption of milk; a surpris­
ingly large number of persons insist they
never use milk as such, the majority main­
taining they use either pasteurized or
tinned milk. In such cases the alterna­
tives are:

a) contraction of infection through
occupational exposure. Locally there
have been cases amongst workers in labo­
ratories, in a veterinarian and in a doctor
where one could almost establish the incident which led to infection.

b) through ingestion of accidentally contaminated food. This is often a surmise but cannot be ruled out. One practical possibility is through consumption of meat from animals which could have been harbouring Brucella organisms. (Agius Ferrante 1970). Meat from various animals is used in sausages, which could be eaten uncooked. In Malta sausages consist wholly of meat and are fairly widely consumed.

c) through inhalation of dust polluted by urine of diseased animals. This, is only a legitimate surmise.

d) through the consumption of cheese made from infected milk. Patients frequently admit to the consumption of fresh cheese and this then appears as the most likely source. For the information of non-Maltese readers we may say that there are special cheeses made in Malta which are marketed either “fresh”, a few days after they are made and still soft, or “dried” for a longer and variable period after manufacture, when they are harder. ("gbejniet moxxi"). These latter are sometimes consumed after they have been liberally sprinkled with pepper and steeped for days in vinegar ("gbejniet tal-bzar"). Traditionally cheeses are made from sheep’s milk and sheep in Malta have been repeatedly proven to suffer much less frequently than goats and cows from brucellosis (Alton 1968). However, even a small proportion of animals could be a source of danger and it is probably true that tradition is occasionally departed from and goats milk is used in cheese making. Moreover, one of the great centres of cheese making is Gozo, where brucellosis is frequent. Brucella organisms do survive the cheese making process consisting in coagulation with rennet. One of us cultivated Brucella from cheese made by the method adopted locally and using artificially infected milk 3 days after it had been manufactured (Report 1940); Gilli (1943) states it can survive in fresh cheese for up to 44 days. Gargani (1952) found Brucella to survive for 90 days. The Joint FAO/WHO Expert Committee on Brucellosis (Report, 1971) states that Brucella melitensis can survive in cheese for 100 days. One is reluctant to attribute the illness to the consumption of cheese since most people eat cheese at some time or other and the explanation may appear too facile, but it very often seems to be the only one discoverable.

Complete eradication of the disease will not occur unless brucellosis is eradicated in the animal reservoirs and this still needs the complete putting into effect of the measures now available. For this a sustained effort fully backed by the local Government and FAO/WHO is essential. At the moment things are not quite right from this point of view but there is a glimmer of hope that they may be righted in the not too distant future. Notification must be more accurate and complete. The consumption of cheese is one source of infection which could and should be dealt with at once. The Milk Marketing Undertaking does produce and sell excellent cheese made from pasteurized milk, but it does so intermittently and the supply does not keep pace with the demand. It is time the sale of cheese made from unpasteurized milk was forbidden: only so can this loophole be plugged. It would be an excellent idea if the making of cheese locally was changed from a cottage industry to a properly organised one selling a safe and guaranteed product. It also appears reasonable to suggest that a warning notice should be displayed when cheese made from unpasteurized milk was forbidden: only so can this loophole be plugged. It would be an excellent idea if the making of cheese locally was changed from a cottage industry to a properly organised one selling a safe and guaranteed product. It also appears reasonable to suggest that a warning notice should be displayed when cheese made from unpasteurized milk was forbidden: only so can this loophole be plugged. It would be an excellent idea if the making of cheese locally was changed from a cottage industry to a properly organised one selling a safe and guaranteed product. It also appears reasonable to suggest that a warning notice should be displayed when cheese made from unpasteurized milk was forbidden: only so can this loophole be plugged. It would be an excellent idea if the making of cheese locally was changed from a cottage industry to a properly organised one selling a safe and guaranteed product. It also appears reasonable to suggest that a warning notice should be displayed when cheese made from unpasteurized milk was forbidden: only so can this loophole be plugged. It would be an excellent idea if the making of cheese locally was changed from a cottage industry to a properly organised one selling a safe and guaranteed product. It also appears reasonable to suggest that a warning notice should be displayed when cheese made from unpasteurized milk was forbidden: only so can this loophole be plugged. It would be an excellent idea if the making of cheese locally was changed from a cottage industry to a properly organised one selling a safe and guaranteed product. It also appears reasonable to suggest that a warning notice should be displayed when cheese made from unpasteurized milk was forbidden: only so can this loophole be plugged. It would be an excellent idea if the making of cheese locally was changed from a cottage industry to a properly organised one selling a safe and guaranteed product. It also appears reasonable to suggest that a warning notice should be displayed when cheese made from unpasteurized milk was forbidden:

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Montebello, Manager of the Milk Marketing Undertaking.

References


DR. C. DE LUCCA AND HIS WORK AS A BIOLOGIST

MARIO GAUCI

Dr. Carmelo De Lucca who died on the 6th March, 1971, was born at Msida, Malta, on the 24th November, 1916. He studied at the Lyceum and later at the Royal University of Malta, where he obtained the Bachelorship in Science and qualified as a Pharmaceutical Chemist in 1939. He graduated in Medicine in 1943.

He served as Resident Medical Officer in the various Hospitals of the island from 1943 to 1946. He was appointed District Medical Officer on the 24th August, 1946 with residence in the village of Gharghur, Malta, where he lived until his death and in whose neighbourhood he carried out many of his observations on the entomological and ornithological life of Malta.

Dr. De Lucca was at the University of Malta as Demonstrator in Biology for the periods 1947-50, 1953-56 and from January to May 1959 and from 1962 up to the time of his death as Lecturer in Pharmacognosy.

In 1964 Dr. De Lucca was invited to attend a congress of Mediterranean Biologists, held at the Institut Océanographique of Monaco by the Commission Internationale pour l'étude scientifique de la Mer Méditerranée. At this Congress he read a paper entitled “The place of Lepidoptera in the Zoogeography of the Maltese Islands” which was published in the Rapports et Procès-verbaux des Réunions de la C.I.E.S.M.M. (volume xviii (2) 1965).

When the Ministry of Education, Culture and Tourism decided to set up a National Sciences and Folklore Museum at Vilhena Palace at Notabile, Malta, Dr. De Lucca was appointed, on the 1st July 1967, Assistant Curator of the Natural History Section. On the death on the 3rd October 1970 of the Curator of the Section, the late Professor H. Micallef, Dr. De Lucca acted as Curator.

In 1969, Dr. De Lucca published “A revised check list of the Birds of the Maltese Islands”. This check-list was the result of about forty years of watching, recording and collecting as many specimens as could be reasonably found in the Maltese Island. Particular attention was given to re-assessing and determining the subspecies of birds found in both islands and to arranging the Families, Genera, etc., in accordance with modern views on Bird Systematics. The Publishers (E. W. Classey Ltd. of Hampton, Middlesex) in the Introduction wrote: “... Self-advertisement would sit strangely on the shoulders of the author of the present work and in fact, the reader will find that the work itself is all that is necessary, or indeed could be said, in praise of his scholarship.”

Through the good offices of Dr. De Lucca, his father, Mr. Vincenzo De Lucca, donated in 1969 to the Museum Department, Malta, a fine collection of birds consisting of over 600 mounted specimens and including a number of rare items.