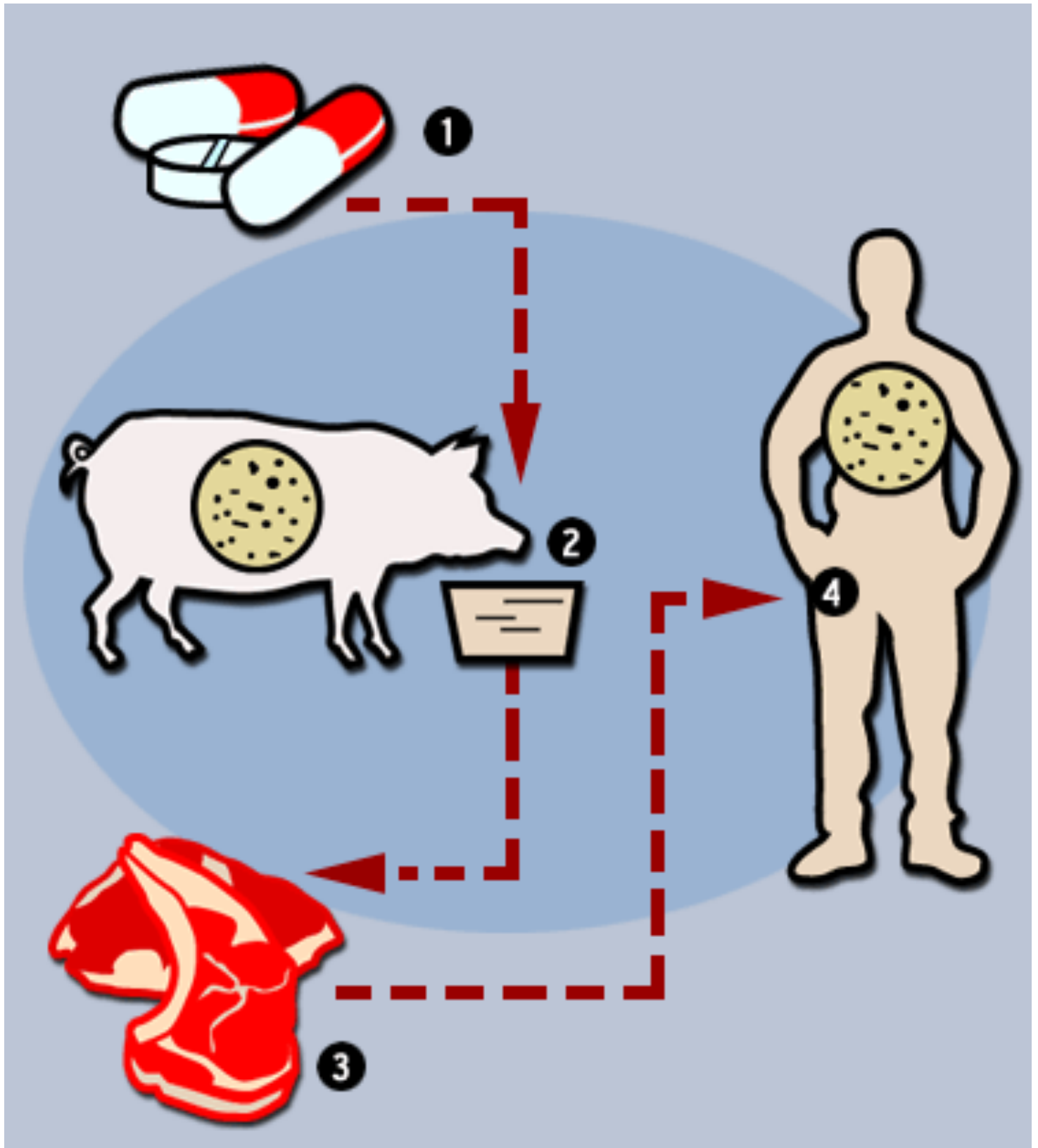


Antibiotics in milk and their effects on Human Health



Introduction

On many nonorganic farms, cows live in crowded, unsanitary conditions and have few opportunities for exercise all of which makes them more prone to health problems. To maintain herd health under these conditions, farmers will treat cows with a regular regimen of preventative antibiotics. This practice is so common and done on such large scale that more than 40% of all antibiotics used in the U.S. are given to farm animals. This widespread use of antibiotics can lead to the development of antibiotic-resistant “super bugs,” which are a growing threat to human health.

An antibiotic is an agent that either kills or inhibits the growth of a microorganism. Antibiotics also known as antimicrobials, these are medications that fight against bacterial infections. ("antibacterial". *Dorland's Medical Dictionary*)

Artificial hormones

Many nonorganic dairy farmers regularly inject their cows with artificial growth hormones (recombinant bovine somatotropin (rBST), recombinant bovine growth hormone (rBGH), or artificial growth hormone) to boost milk production. Other artificial hormones are used to enhance breeding, and others to boost the weight of beef cattle. These are Prohibited in Canada, Japan, Australia, New Zealand and the 27 countries of the European Union, rBST increases the risk of udder infections by 25% and the risk of lameness by 50%. We don't think treating cows with rBST is humane. But it's also not a healthy way to treat people.

Increased cow infections could lead to increased antibiotic use, result in new strains of antibiotic-resistant bacteria that infect people. Instead of using rBST, organic dairy farmers increase milk production safely and humanely through sound animal husbandry good animal hygiene, optimal living conditions, and nutritious pasture, hay and feed.

National organic regulations do allow a hormone stimulating synthetic called “oxytocin” to aid in calving and for therapeutic uses. But the Organic Valley/Cropp farmers who supply us with milk don't use even that.

Rationale of problem:

Antibiotic use in cattle production causes an increased risk to consumers by developing antibiotic resistant.

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American cancer society studied on Recombinant bovine growth hormone ,it is also called somatotropin hormone (rBGH).It is a synthetic (man-made) hormone that is marketed to dairy farmers to increase milk production in cows. It has been used in the United States since it was approved by the Food and Drug Administration (FDA) in 1993, but its use is not permitted in the European Union, Canada, and some other countries. . It promotes growth and cell replication. Bovine growth hormone (BGH), also known as bovine somatotropin (BST) is the natural form of this hormone in cattle.Some rBGH products on the market differ chemically from a cow's natural somatotropin by one amino acid. Both the natural and recombinant forms of the hormone stimulate a cow's milk production by increasing levels of another hormone known as insulin-like growth factor (IGF-1).(American Cancer society).

As in a similar study of Mary D.Barton.She studied on Antibiotic use in animal feed and its impact on huma healthes.Antibiotics are added to animal feeds to treat and prevent infections and to improve growth and production .Antibiotic resistance in bacteria that cause disease in humans,These resistant bacteria are transfer through the food chain, such as *enterococci* resistant to quinupristin, dalfopristin or to everninomicin, uoroquinolone-resistant *campylobacters* and multiresistant *Escherichia coli*, and *Salmonella Typhimurium* DT104.. The continued use of antibiotic growth promoters has been questioned and there is a need to ensure that antibiotics important in human medicine are not used therapeutically or prophylactically in animals.The major concerns about incorporation of antibiotics in animal feeds related to antibiotic residues in products from treated animals. Although, in 1969, the Swann (1969) report drew attention to the potential for antibiotic-resistant bacteria to spread from treated animals via the food chain, there was little response until the detection of vancomycin-resistant enterococci in animals fed a related glycopeptide, avoparcin.

(Nutrition Research Reviews ,2000)

New ways of understanding milk purity accompanied the introduction of veterinary antibiotics to the dairy farm. Antibiotics once viewed as substances that could rid milk of bacterial hazards became understood as food adulterants when residues of the drugs were detected in milk. Although consumers' concerns about food purity became critical in the postwar era, only in the late 1950s and early 1960s did public health officials and consumers take interest in the potential human health effects of antibiotic residues. Veterinarians and milk processors, not consumers, led the effort to curb indiscriminate use of antibiotics in the 1940s and 1950s. Paying close attention to the context in which farmers chose to use antibiotics and monitored drug residues.

(KendraSmithHoward the Agricultural History Society, 2010).

In the mid 1980s,the National cattlemen's Association adopted policy discouraging feeding low levels of antibiotics to promot growth in response to intial concern about antibiotic resistance.

In addition to early industry action,The U.S government strictly trackes antibiotics resistance as well as monitors and reviews products and interventions.Multiple Studies have reviewed whether antibiotic use in cattle production causes an increased risk to consumers by developing antibiotic resistant food born or other pathogens.

(Journal of food protection ,July 2004; Journal of antimicrobial Chemotherapy,2003)

Conclusion

Above mentioned series of study result, it can conclude that the antibiotics in milk are harmful for human health.it can cause many type of health problem and pathogen become resistant day by day.We should drink pure and pasteurized milk.

In a similar study of The National cattlemen's Beef Association producer guidelines for judicious. They said that Avoid using antibiotics that are important in human medicine.Use a narrow spectrum of antimicrobial whenever possible .Treat the fewest number of animals possible.

In a another study of Beef Quality Assurance (BQA) program,Antibiotic use should be limited to prevent or control disease and should not be used if the primary intent is to improve performance.

References:

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