

# Food eponyms in Pathology

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## ABSTRACT

Pathology is an interesting and often challenging field. In many instances, Pathologists often hunt for clues to arrive at the diagnosis, in dark with a single beam of light. To make this tedious task more acceptable and more convenient, pathological findings are usually compared with food entities commonly used in our day to day life. Here, we have compiled pathological findings compared with certain food entities.

**Keywords:** Eponymophilia, Metaphorical descriptions, Pathological findings

## INTRODUCTION

### Food Eponyms

The practice of “eponymophilia” is often common in pathological practice. These eponyms help a pathologist to recognise complex pathological patterns more comfortably. We did a detailed literature search and have compiled the following commonly used food eponyms.

**Ague cake appearance:** It was described in 1794 by Richard Shannon to describe enlargement of spleen in association with liver [1], usually connected with Malaria [2].

**Almond shaped organ:** Gross appearance of normal ovary [3].

**Anchovy sauce pus:** The odourless brown coloured pus seen in amoebic liver abscess [4].

**Apple green birefringence:** The birefringence exhibited by amyloid stained by congo red in polarized light [5].

**Apple green sputum:** The thick green coloured purulent sputum in pneumonia caused by *Haemophilus influenzae* [6].

**Apple jelly nodules:** Small sharply defined reddish-brown lesions with a gelatinous consistency seen in *Lupus vulgaris* [7].

**Banana shaped:** The crescent shaped gametocyte of *Plasmodium falciparum* which facilitate the sequestration of early-stage gametocytes and enabling late-stage gametocytes to circulate in the blood stream without being removed by the mechanical filtering mechanisms in the host spleen [8]. The elongated appearance of cerebellum in majority of cases of spina bifida [9].

**Berry aneurysm:** The saccular aneurysm of the cerebral vessels at the junction of vessels in the circle of Willis [10].

**Blue berry muffin baby:** Infants with purpura on the trunk, head and neck because of extramedullary dermal haematopoiesis found in infants with congenital infections, TORCH syndrome (toxoplasmosis, other, rubella, *Cytomegalovirus*, herpes) [11], congenital leukemia cutis and neonatal neuroblastoma [12], rhabdomyosarcoma and Langerhans cell histiocytosis [13].

**Bread and Butter appearance:** The shaggy appearance of the deposition of fibrinous exudate on pericardium due to inflammatory process [14].

**Café au lait spots:** These are well circumscribed, evenly pigmented

macules and patches seen in healthy children and associated with syndromes, commonly neurofibromatosis type 1 [15].

**Carrot shaped nuclei:** Shape of the nuclei with abundant chromatin and scanty cytoplasm seen in medulloblastoma, an embryonal malignant childhood tumour commonly located in cerebellum [16].

**Cauliflower like appearance:** Gross appearance of the sexually transmitted genital warts (condyloma acuminata) caused by human papilloma virus [17]. To describe a tumour with bulging growth with papillary excrescences commonly squamous cell carcinoma [18].

**Cheesy appearance:** Gross appearance of the acellular material in caseous necrosis in granulomas produced by the release of lipid from cell walls of *Mycobacterium tuberculosis* and some systemic fungi [19].

**Cherry red spot:** A clinical sign seen at macula on fundus examination because of thickening and loss of transparency of posterior pole of retina in many inherited metabolic disorders, central retinal artery occlusion and orbital contusion and ischaemia [20].

**Chicken fat appearance:** The yellowish part of the postmortem clots formed from the RBC sediments and separate from plasma owing to the force of gravity [21].

**Chicken wire pattern:** Arrangement of capillaries in Myxoid liposarcoma [22], oligodendroglioma [23], low grade fibromyxoid sarcoma [24], clear cell sarcoma of the kidney [25], pericellular/perisinusoidal fibrosis seen in alcoholic liver disease [26]. Calcification surrounding the chondroblasts seen in chondroblastoma [27].

**Chocolate colored blood:** The brown coloured blood in methemoglobinemia, a condition characterized by excess of haemoglobin with iron oxidized to ferric (Fe<sup>3+</sup>) form [28].

**Chocolate cyst:** The appearance of the thick brown tar like fluid in the ovarian cyst with ectopic endometrial tissue [29].

**Clover leaf cells:** The bizarre, multilobulated nuclei with coarse chromatin and prominent nucleoli seen in the large atypical lymphocytes in Adult T-cell leukemia/ lymphoma [30].

**Coffee bean nuclei:** The nuclear morphology of the cells with enfolded nuclear membranes with distinct longitudinally grooved nuclei seen in Brenner tumour [31], granulosa cell tumour [32], Langerhans cell histiocytosis [33], papillary carcinoma of thyroid [34] and Walthard cell nests [35].

**Cola coloured urine:** The dark coloured urine caused by haemolysis

of red cells that have crossed the glomerular basement membrane and passed the tubules in children with acute glomerulonephritis [36].

**Cone biopsy:** Biopsy procedure done in cervical malignancies [37].

**Cornflake artefact:** Refractile brown artefact seen on superficial squamous cells due to air bubbles trapped under the coverslip [38].

**Cottage cheese appearance:** The white patches and plaques seen in pseudomembranous candidiasis of gingiva and labial mucosa [39]. The thick, white odourless discharge seen in vulvovaginal candidiasis [40].

**Crab like:** Gross appearance of invasive ductal carcinoma with characteristic stellate appearance and interface with surrounding normal breast [41].

**Curdy white discharge:** The thick, white odourless discharge seen in vulvovaginal candidiasis [40].

**Cut Cabbage appearance:** The gross appearance of cut surface of giant fibroadenoma and phyllodes tumour with slit like spaces [42].

**Cut Potato appearance:** The pale, lobulated, bulging gross appearance of cut surface of Seminoma Testis [43].

**Doughnut cells:** The cells seen in anaplastic large-cell lymphoma with cytoplasmic pseudo-inclusions formed because of the invaginations of the nuclear membrane [44].

**Doughnut granuloma:** Small non necrotizing granulomas with central fat vacuoles surrounded by dense fibrin ring and epithelioid histiocytes, seen in liver in Q-fever and also in *Cytomegalovirus* hepatitis, allopurinol treatment, visceral leishmaniasis, infectious mononucleosis, Hodgkin's lymphoma and non-Hodgkin's lymphoma [45,46]. They are also called as fibrin ring granulomas [47].

**Egg basket appearance:** Overlapping and crowding of the nuclei in cells lining the tangentially sectioned neoplastic papillae in papillary carcinoma of thyroid [48]. Multilobulated Reed Sternberg cell in Hodgkin's lymphoma [49].

**Fruity odour:** The odour of acetone attempting to be excreted in lungs/breath seen in ketoacidosis seen in type 1 diabetes mellitus [50].

**Fishy odour:** The vaginal discharge of women with bacterial vaginosis due to trimethylamine [51].

**Fish malodor syndrome:** A metabolic disorder characterized by offensive smell of rotting fish due to excessive excretion of trimethylamine in urine, sweat, breath and other body secretions [52].

**Fish net pattern:** A pattern of binding of immunoglobulin G localized to the intercellular spaces in direct immunofluorescence in pemphigus vulgaris [53] described by Williams in 1989 [54].

**Fishy odour:** It is felt in poor hygiene, gingivitis, bacterial vaginosis, urinary tract infections [55], advanced renal and liver diseases [56].

**Fish flesh appearance:** The gross appearance of cut surface of smooth, slightly bulging pale tan, white grey colour seen in sarcomas [57], lymphomas [58], retinoblastoma [59], Wilm's tumour [60].

**Flat cake:** Appearance of normal placenta [61].

**Fried egg appearance:** Normal mast cells with central round nuclei and amphophilic cytoplasm that stains partially with haematoxylin and eosin stains [12]. Hairy cells with abundant cytoplasm than normal small lymphocytes seen in bone marrow biopsy in hairy cell leukemia [62]. Polychromatophilic and orthochromic normoblasts with centrally placed, intensely staining round nuclei and clearly discerned plasma membrane margins [63]. The neoplastic cells in lymphoplasmacytic lymphoma [64]. Long lived plasma cells with bubble like vacuoles or lipid droplets indicative of historical childhood

infections [65]. The colonies of *Mycoplasma pneumoniae* grown in Eaton's agar [66]. The monomorphic cells of oligodendroglioma with uniform round vesicular nuclei, distinct small nucleoli and perinuclear halo [67]. The round tumour cells of seminoma testis with glycogen rich clear cytoplasm with sharp cell borders [68]. Long-lived plasma cells with bubble-like vacuoles or lipid droplets [69].

**Grape like lesions:** Enlarged thin walled villi in the form of translucent vesicles seen in molar pregnancy [70]. The gross appearance of sarcoma botryoides a subtype of embryonal rhabdomyosarcoma, that can be observed in the walls of hollow, mucosa lined structures in young children [71]. The abnormal plasma cells with cytoplasmic inclusions of immunoglobulin seen in multiple myeloma [72].

**Herring bone pattern:** Arrangement of tumour cells in short fascicles which split and merge giving the appearance of fish bone seen in fibrosarcoma [73].

**Hemp seed:** Small round or ovoid multiple grey or brown clumped appearance of calcium oxalate renal stones with varnished surfaces and a concentrically laminated structure [74].

**Honey comb appearance:**

- Changes in the lung caused by the obliteration of bronchioles by fibrosis or granulomata and compensatory dilatation of neighbouring bronchioles seen in bronchiectasis, cystic lung disease, end stage of lung with interstitial fibrosis [75-77].
- Gross appearance of the normal mucosa of gall bladder [78], hemangiomas [79-81], serous cystadenomas of pancreas [82], multiple subcutaneous nodules in actinomycosis [83].
- Cytological appearance of monolayered sheets of uniform columnar to cuboidal cells with evenly spaced nuclei seen in endocervical cells [84], thyroid follicular epithelial cells [85], normal bile ductal cells [86], pancreatic ductal cells [87].
- Foamy granular eosinophilic acellular intra-alveolar exudate of *Pneumocystis jiroveci* [88].

**Hot potato voice:** A defect of resonance in which the speech has a muffled quality, fancifully likened to a person speaking with a hot potato in the mouth, is the result of an underlying transient velopharyngeal insufficiency seen in peritonsillar abscess and peritonsillitis [89].

**Lardaceous spleen:** Deposition of amyloid in sinusoids and surrounding connective tissues of spleen [90].

**Lemon on match stick appearance:** Truncal obesity with relatively thin and lean limbs seen in Cushing's syndrome [91].

**Maple syrup urine:** Characteristic sweet aroma present in the body fluids seen in branched chain ketoaciduria (maple syrup urine disease), an autosomal recessive inherited disorder with deficiency of branched chain alpha keto acid dehydrogenase complex [92].

**Millet seed appearance:** Term coined in 1700 by John Jacob Manget to describe the tiny tubercles on gross examination of various organs in disseminated tuberculosis resulting from massive lymphohaematogenous spread [93].

**Milky leg:** The swollen white painful leg of phlegmasia alba dolens secondary to extensive deep vein thrombosis of the iliac and femoral veins [94].

**Milky urine (Chyluria):** Passage of white chylous material in the urine composed of albumin, emulsified fat and fibrin which are absorbed by intestinal lymphatics. Chyluria is seen in filariasis and other parasitic infestations [95], in nephrotic syndrome due to lipiduria [96], crystalluria due to precipitation of phosphate and urinary tract infection [97].

**Meaty appearance:** Gross appearance of cut surface of diffusely and symmetrically enlarged thyroid in diffuse toxic goiter [98,99].

**Melon seeds:** Agglutinated protein nodules nurtured by synovial fluid seen in tuberculous tenosynovitis [100].

**Mulberry appearance:** An early stage embryo (16 cell mass) consisting of blastomeres [101]. Round or ovoid, amber to dark brown appearance of calcium oxalate renal stones with numerous rounded bosses or mammillary processes [102].

**Nutmeg liver:** A perfusion abnormality of the liver in chronic venous hepatic congestion resulting in contrast between central congested sinusoidal space and the paler peripheries [103].

**Oat cell carcinoma:** The neoplastic cells with small oval hyperchromatic nucleus with scant cytoplasm resembling oats seen in small cell carcinoma of lung [104].

**Omental cake:** Thickening of the omentum secondary to tuberculosis [105] and in ovarian malignancies [106].

**Onion Bulb appearance:** A myelinated nerve fibre axon surrounded by one or more concentric layers of schwann cell processes and collagen due to repetitive segmental demyelination and regeneration of myelin seen in sural nerve in chronic inflammatory demyelinating polyneuropathy [107].

**Onion skin appearance:** A pattern characterized by concentric laminations of differing gross or histologic densities seen in

- Deposition of collagen around arteries of the spleen in syphilis [108].
- Concentric perivascular fibrosis of central and penicilliary arterioles of spleen in systemic lupus erythematosus [109] and thrombocytopenic purpura [110].
- Castleman disease with the appearance of lymphoid follicle surrounded by a broad mantle zone composed of concentric rings of small lymphocytes [111].
- Concentric laminated thickening of the walls of interlobular arterioles of the kidney due to proliferation of internal smooth muscle cells, the so called Hyperplastic arteriosclerosis seen in malignant hypertension [112].
- Concentric perivascular fibrosis highlighted by Masson trichrome stain in gastric inflammatory fibroid polyps [113], destructive bony lesion with lamellated type of periosteal bone formation seen in Ewing's sarcoma [114].
- The thickened vessels of the synovia due to myoid cell proliferation (microangiopathic lesions) seen in Lyme disease synovitis [115].

**Onion skin fibrosis:** Concentric periductal fibrosis involving interlobular bile duct seen in Primary Sclerosing Cholangitis [116].

**Pancake brain:** Represents the appearance of the cerebral parenchyma in case of a lobar holoprosencephaly [117].

**Pea soup diarrhoea:** Foul smelling green yellow coloured stool in salmonella infection [118].

**Pear shaped organ:** Gross appearance of the normal uterus [119].

**Portwine stain:** A type of capillary vascular malformation [120].

**Portwine coloured amniotic fluid:** Amniotic fluid mixed with blood seen in abruptio placentae [121].

**Popcorn cell:** A type of Reed Sternberg cell seen specifically in nodular lymphocyte predominant Hodgkin's lymphoma with delicate, multilobulated folded nuclei, visible nucleoli and pale cytoplasm [122].

**Potato nose:** Hypertrophy of sebaceous glands of nasal tip in rhinophyma [123]. This appearance is also called as whisky nose, rum nose, wine nose, strawberry nose and brandy nose [124].

**Red currant jelly sputum:** Sputum tinged with mucus and blood seen in *Klebsiella pneumoniae* infection [125] and in bronchogenic carcinoma [126].

**Raisin like nucleus:** To describe an enlarged nuclei with coarse chromatin and wrinkled nuclear membrane of a koilocyte [127] or

nuclei in poorly differentiated carcinoma [128].

**Rice water stools:** A watery diarrhoea containing flecks of whitish mucus and gastrointestinal lining epithelial cells which are about the size of pieces of rice seen in cholera infection [129].

**Sago spleen:** Deposition of amyloid in spleen limited to follicles [130] described first by Nicolaus Fontanus in 1639 [131].

**Salmon patch:** A type of capillary vascular malformation [132].

**Shish Kebab appearance:** Peculiar arrangement of the squamous cells around the long filamentous *Candida* in Pap smear [133].

**Spaghetti and meat balls appearance:** Tinea versicolor on KOH Preparation. Electron microscopic appearance of oligodendrocytes in Progressive Multifocal Leukoencephalopathy (PML).

**Spaghetti tumour:** Intravascular leiomyomatosis (endolymphatic stromal myosis), which grows extensively with in vessels [134].

**Spaghetti noodles appearance:** The winding cellular pattern of tumour cells with elongated nuclei randomly dispersed in a fibrous background seen in Plexiform neurofibroma [135].

**Strawberry cervix:** An erythematous cervix with pinpoint areas of exudation seen in *Trichomonas vaginalis* infection [136].

**Strawberry Gall bladder:** Macroscopic appearance of gall bladder with bright red mucosa with yellow mottling due to lipid seen in cholesterosis of gall bladder [137].

**Strawberry gums:** Localised or generalized proliferative gingivitis with a mottled purplish red granular surface resembling an overripe strawberry seen in Wegener's granulomatosis [138], now called as granulomatosis with polyangiitis [139].

**Strawberry hemangioma, Strawberry nevus, Strawberry mark:** Congenital cutaneous capillary hemangioma reminiscent of a ripe strawberry [140].

**Strawberry skull:** Shape of the skull in trisomy 18 [141].

**Strawberry tongue:** A form of glossitis with hyperplastic fungiform papillae seen in Kawasaki disease [142], scarlet fever [143] and toxic shock syndrome [144].

**Sugar icing appearance:** Thickening of the splenic capsule accompanied by hyalinization seen in hyalinising perisplenitis [145], thickened and whitish hepatic capsule seen in chronic perihepatitis and cardiac cirrhosis [146]. Whitish appearance of the serosal surface of the intestine seen in chronic fibrosing peritonitis [147].

**Sugar tumour:** Perivascular Epitheloid cell (PEComa) tumour of the lung with abundant cytoplasmic glycogen in the tumour cells [148].

**Swiss cheese appearance:** Overgrowth of the stroma and cystically dilated endometrial glands lined by flattened to low cuboidal to pseudostratified columnar epithelium found in endometrial hyperplasia [149]. The cribriform appearance of tumour cells resulting from numerous microcystic pseudoglandular spaces seen in adenoid cystic carcinoma [150].

**Tender coconut appearance:** White glistening membranes of excised hydatid cyst caused by *echinococcus granulosus* [151].

**Pear shaped organism:** Trophozoite of *trichomonas vaginalis* [152] and *giardia lamblia* [153].

**Peau d'Orange appearance:** The dimpled and swollen appearance of skin due to occlusion of lymphatics in carcinoma breast, [154] in filariasis [155], due to accumulation of excess glycosaminoglycans in the dermis and subcutis of the skin with prominent hair follicles in pretibial myxoedema in Grave's disease [156]. Diffuse mottling of the retinal pigment epithelium in an area temporal to the macula due to breaks in Bruch's membrane called angioid streaks in patients with pseudoxanthoma elasticum [157].

**Pepper syndrome:** The syndrome of massive hepatic metastases from Adrenal neuroblastoma described by Pepper in 1901 [158].

**Portwine stain:** A type of capillary vascular malformation.

**Popcorn cells:** The larger cells in nodular lymphocyte predominant Hodgkin's lymphoma with lobulated nuclei resembling the kernel of popped corn [159].

**Raspberry tumour:** An umbilical adenoma in the patent vitellointestinal duct. The mucosa prolapsing through the umbilicus gives raspberry like appearance [160].

**Red currant jelly clots:** The reddish part of the postmortem clots formed from the RBC sediments owing to the force of gravity [21].

**Rice bodies:** Described by Riese in 1895, seen in the joints and bursa of patients with tuberculosis and rheumatoid arthritis, formed mainly of fibrin [161,162].

**Unripe pear:** The gross appearance of yellowish chalky streaks due to extensive elastosis with a firm gritty texture seen in invasive carcinoma of the breast (scirrhous carcinoma) [163].

**Watermelon stomach:** The appearance of visible linear watermelon like vascular stripes in the antrum of stomach in gastric antral vascular ectasia [164], first described by Rider et al in 1953 [165] and the term coined by Jabbari M et al in 1984 [166].

**Whartons jelly:** A gelatinous substance present within the umbilical cord containing mucoid connective tissue and mesenchymal stem cells [167].

## CONCLUSION

Usage of eponyms often makes a pathologist's laborious tasks more convenient. Analogical way of thinking helps us to learn and retain things in a better way.

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Date of Submission: **Mar 16, 2017**  
Date of Peer Review: **Apr 15, 2017**  
Date of Acceptance: **Apr 29, 2017**  
Date of Publishing: **Aug 01, 2017**

**FINANCIAL OR OTHER COMPETING INTERESTS:** None.