BODY AND MIND STUDIO®
PERSONALISED WELLNESS

Breast Cancer in Blood Group Type A Individuals

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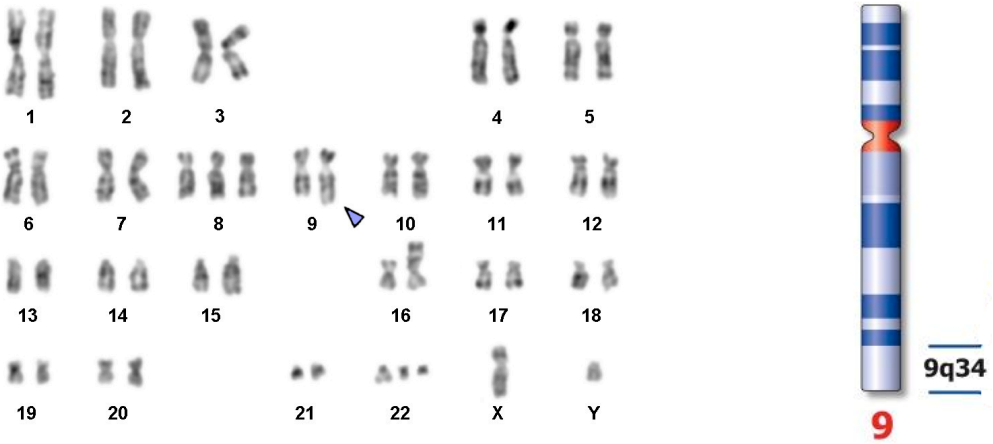
INTRODUCTION

In the United Kingdom (UK), breast cancer is the most common cancer with around 50,000 people being diagnosed each year, and of these, about 370 are men.[1] The UK has the 11th highest breast cancer rate in the world and every year 89.1 of every 100,000 women in the UK develop breast cancer.[2]

It useful to note that according to the UK National Health Service Blood and Transplant service (NHSBT), 35% of the UK population are blood group type A+ and 7% are A-. That's a total of 42% of the UK population who have the ABO blood type A.[3] Although no research or association between breast cancer and blood type A in the UK could be found when writing this paper, research has shown that cancer cells themselves have an ABO blood type, and as they are 'A-like', they therefore appear to make the type A individual more prone to cancer in general as type A's think that cancer cells are 'friendly type A cells', and welcome them onboard. This will be discussed in detail below. With this being so, and with 42% of the UK population being type A, it can therefore be reasonably argued that a proportionally large amount of type A's will be amongst the 50,000 diagnosed with breast cancer in the UK each year.

As long ago as 1984, a gene for breast cancer susceptibility linked to ABO blood group susceptibility located on band q34 of chromosome 9 was discovered by scientists.



Chromosome 9 spans about 145 million base pairs of nucleic acids (the building blocks of DNA) and represents between 4 and 4.5 percent of the total DNA in cells. From this discovery confirmation of evidence of a connection between blood group and breast cancer was added to what has become an ever increasing body of statistical evidence.[4]

IMMUNOLOGIC FACTORS

Dr Peter D'Adamo has observed that blood type A women have a general tendency to a more rapid progression and worse outcomes with breast cancer than the other ABO blood types.[5]

TYPE O	TYPE A	TYPE B	TYPE AB	SECRETOR STATUS
Slight degree of resistance to breast cancer, and lower risk of death.	Higher risk, worse outcomes, and more rapid progression.	Slight degree of resistance and lower risk of death, unless there is a family history. Higher risk of recurrence.	Higher risk, worse outcomes, and more rapid progression.	Slightly less risk for non-secretors.

Research also indicates that blood type A women are over-represented among breast cancer patients, and that this trend occurs even among women thought to be at low risk for cancer.[6] **So why is it that the type A's seem so prone to not only breast cancer, but most cancers?**

(a) Thomsen-Friedreich Antigen[7]

Healthy cells do not normally express a tumor marker called the Thomsen-Friedreich Antigen (TFA), commonly known as the T antigen. Healthy cells in fact have antibodies against the T and Tn antigens (see below) which are primarily induced by intestinal flora which generates an immune system response against cells with these markers.

Many malignant cells, such as those found in breast cancer develop first a Tn antigen (a less well developed T antigen) then in about 90% of all cancers the Tn and T antigens gradually become unsuppressed as the cell moves towards malignancy. If there is a prevalence of Tn antigens on a cancer cell, it usually means that the cancer is a particularly aggressive, metastatic cancer.

One of the main functions of the Tn and T antigens is to promote cancer cell adhesion. In essence, this is the ability for the cancer cells to stick to healthy cells, which is an important part of cancer invasion.

Blood Group Type A antigen - Structurally similar to T and Tn Antigens

Research has shown that the T and Tn antigens have a similar structure to the ABO blood type A antigen. The T and Tn antigens, and blood type A antigens are immunologically considered to be quite similar. They all share terminal sugar N-acetylgalactosamine. This is the terminal carbohydrate forming the antigen of blood group A, which is necessary for intercellular communication. Due to this important fact, the theory at present is that due to the lower level of antibody against T and Tn antigens the immune system of Type A's become confused or disinclined to attack the T and Tn antigens, as it thinks it is attacking itself, so in effect it is welcoming them to stay on board and continue with its destructive ways.

The hypothesis is as follows: "Because of the lower levels of antibody against T and Tn antigens, and because of this tendency for the immune system of group A to be disinclined to attack Tn antigens, blood group A is at an immunological disadvantage in attacking and cell bearing the T an Tn antigenic markers". [8]

Irrespective of age, cancer stage or tumor morphology, blood group type A cancer patients (including those with breast cancer) were found to have the greatest and uniform suppression of the level of TFA agglutinins (an antibody, lectin, or other substance that causes agglutination - thickening/clumping). They were also found to have lower levels of anti-B iso-hemagglutinins. A substantially greater amount of patients compared to healthy non-cancer patients have been shown to have depressed levels of the anti-T antibody.

This is probably at least a part of the reason why type A individuals have poorer outcomes in many cancers, including breast cancer, than other ABO blood types.

(b) Natural Killer Cells[9]

Natural killer cells (NK) function to destroy cells infected with breast cancer, and in virtually every type of cancer investigated, NK activity is low. Breast cancer has been shown to be associated with low NK cell activity. NK cell activity is the first line of defence against cancer, and has been shown to be predictive of

advanced disease and the spread of breast cancer in women. Women with advanced breast cancer (stages II to IV) show a much lower level of NK cell destruction than women who are in stage I (limited disease). Although it affects all blood groups, in general, the lowest NK cell activity has been associated with blood group type A.

It is also possible, although by no means yet certain, that a higher natural NK cytotoxicity against target cells exists in individuals with Rh-negative blood type.

Work done in laboratory work on prostate cancer to determine outcomes in advanced disease, often provides more useful information that the routinely used tumor marker assessments. Literature studied for this essay does not expand on whether this is applicable to breast cancer or not.

(c) Coagulation and Cancer – Another Blood Group A weakness[10]

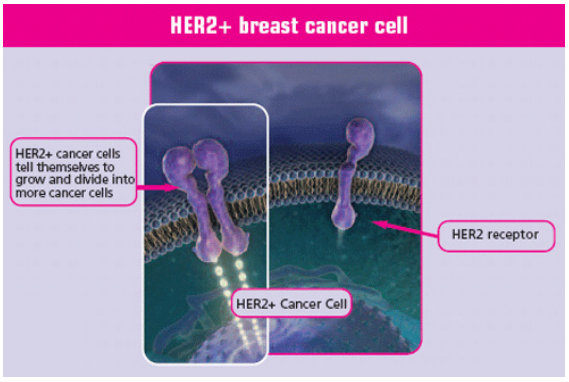
In addition to the T and Tn antigen in blood group type A individuals, there are several other aspects which appear to convey additional susceptibility to malignancy. Type A's have thicker blood with a tendency toward aggregation (grouping everything together) making it probably the second most potent issue for malignancy complications.

Von Willebrand factor (vWF) and factor VIII: vWF and factor VIII are serum proteins that are a kind of molecular glue. They are used by platelets in the blood to attach to blood clotting proteins along the lining on the blood vessels. They are also required for these abnormal platelet glycoproteins to bind to cancer cells. Patients with disseminated metastases (i.e. the cancer is spreading) showed that their plasma levels of vWF and factor VIII were elevated with platelet activity upward of 150% greater than that of normal individuals. Blood group Type A individuals have higher levels of vWF and factor VIII than the other blood groups which probably accounts for their "thicker blood". In the case of malignancy, vWF and factor VIII probably help metasizing cancer cells adhere to platelets, while having the secondary effect of inducing metastasis as well. i.e. They assist in spreading the cancer.

Fibrinogen: Studies have shown that blood group type A cancer patients have higher levels of blood viscosity that those who are type O, which appears to be as a result of the clotting protein fibrinogen which is higher in type A's, and which might also help cancer cells to metasize (spread). Fibrinogen is an acute phase protein which is important in both the inflammatory response and wound healing. It's presence in cancer patients is believed to both contribute to weight loss and shorten survival.

(d) Growth Factors and Blood Group Type A risk[11]

Another effect of the blood group A antigen is its ability to attach to the receptor for 'growth factors' which are found in much higher concentration on tumor cells than on normal ones. Growth factors are active throughout our lives in all situations where tissue remodelling occurs. For example: response to injury, puberty, inflammation and, unfortunately, cancer. Overproduction of growth factors as a result of oncogene activity (a gene that in certain circumstances transforms a cell into a tumor cell) contributes to the loss of the body's ability to regulate growth, which results in cancerous cell growth.



Epidermal growth factor (EGF): EGF is a growth factor normally synthesized to help tissue to repair itself. However, EGF also has important effects of the growth of many cancer types including breast cancer, which is what we are talking about in this particular paper.

Breast cancer is characterised by cells that have an excessively high concentration of EGF receptors (EGF-R) on their surfaces which means that the cell can bind an excessive number of these molecules, which could also

mean that it is critical to tumor growth. In fact, it is now clear that the growth of breast cancer is regulated by growth factor receptors EGFR and Her-2/neu (see above)[12] and their upregulation is associated with impaired prognosis.

The EGF-R bears an antigenetic determinant closely related to blood group A carbohydrate structure. It is well documented that the blood group A antigen can bind to EGF-R as well. Therefore it is not unlikely that free A antigen in blood group A individuals (especially secretors) can simulate cell growth by finding their way onto theses excess EGF-R.

LET FOOD BE YOUR MEDICINE

The ancient Greek physician Hippocrates (460-377 BC) once said "*Let food be your medicine, and let your medicine be your food.*". The Roman poet and philosopher Titus Lucretius Carus (ca. 99 BC – ca. 55 BC) also coined the phrase "*What is food to one man may be fierce poison to another*", which has subsequently become "*One man's food is another man's poison*". Some 2,000+ years later, we are finally starting to realise, that, they just may well have been right!

Dr D'Adamo states that type A's are biologically predisposed to heart disease, cancer and diabetes. In other words these are the type A's risk factors, but, very importantly they need not be their destiny[13]. Following the Blood Group Diet® and the GenoType Diet® type A individuals can supercharge their immune systems and potentially short circuit the development of life threatening diseases. It cannot be emphasised enough how critical dietary adjustment can be to the sensitive immune system of type A's, which could in turn result in more favourable outcomes for type A breast cancer patients.

(a) Blood Group Diet® for Type A blood group

It is important that type A's aim for 'type A optimum nutrition' by following dietary and lifestyle recommendations of Dr. D'Adamo to assist with breast cancer prevention and, if they are unfortunate enough to already have it, to ensure a more favourable outcome. The full dietary (and lifestyle) recommendations can be found in his books "Eat Right For Your Type" and "Live Right For Your Type", but it is important to note the most important type A 'super foods' which should be a priority including:-

- Richly oiled cold-water fish, particularly Salmon and Sardines
- Olive Oil
- Walnuts
- Dark leafy greens, particularly spinach, kale and Swiss chard
- Garlic
- Onion
- Berries, particularly blueberries and elderberries
- Ginger
- Green tea

When preparing and eating meals, it is important to get the ratios right. For type A's it should be as near as possibly to the following:-

- 21% Protein
- 9% Oils
- 70% Fruit and vegetables

The main aim of supercharging the system is to avoid the intake of damaging lectins. Lectins are proteins with a sweet tooth which are found in food and attach to the blood which causes it to agglutinate (clump/stick together). They are like a dangerous glue which stick inside you leading to system toxicity. Agglutination and lectins cause inflammation and can cause cancer. Type A individuals should consume soy

based foods (Tofu, Miso) which contain lectins which makes the immune system more aware of cancer cells in the body. Concentrated soy sprouts can also be found in Dr. D'Adamo's product – **Live Cell® A** – sprouted foods complex (see below).

Foods with the most damaging lectins for type A are:-

- Kidney beans
- Lima beans
- Potatoes
- Cabbage
- Eggplant
- *Bananas**
- *Tomatoes**

Tomatoes* and **Bananas* however, become neutral if the individual is a type A 'Non-Secretor'. Approximately 15-20% of the population are non-secretors which means that they do not secrete their blood group type into other bodily fluids as secretors do (saliva, sweat, tears, semen, vagina, mucous, digestion). Non-secretors are more complex individuals who are harder to diagnose and slower to cure. **It is important that an individual with cancer should not eat wheat germ as it will stimulate the cancer cells.

With over 25 years in the nutritional supplement business, I know the importance of good daily supplementation programme. As a type A myself, I am indebted to Dr D'Adamo for his blood group specific personalised nutritional supplement program which includes the following products for Type A's:-

Type A Basics:-

- **Deflect® A** – Blocks the effects of lectins
- **Polyvite® A** – Multi-Vitamin
- **Phytocal® A** - Multi-Mineral
- **Polyflora® A** – Optimal Probiotic

Type A Targeted Supplements:-

- **Cortiguard®** – Stress Response
- **Hepatiguard™** – Detoxification Support
- **Glycosia™** – Metabolic Support
- **Helix Plus®** – Immune Support

Helix Plus® in particular, which contains 'Roman Snail' can help to play an important part in cancer prevention for type A's.

Additional Products:-

Protein Blend™ A – Protein drink ideally mixed in Blackberry, Black Cherry, Grapefruit, Lemon, Pineapple, Prune or Apricot juices. *NOTE:* Pineapple is very good for type A digestion.

Live Cell® A – sprouted foods complex containing concentrated soy sprouts which is a good immune system booster.

(b) GenoType® Diet for Type A blood group[14]

It has now been 16 years since Dr. D'Adamo's *Eat Right for Your Type* was first published, and as valid as it still is today (I have had a fantastic personal result following it), much has happened to progress the diet, none more so than the introduction of The GenoType Diet® to the world in 2007.

In a nutshell, the GenoType Diet® builds on the Blood Group Diet® to even further personalise an individual's diet and lifestyle to further enhance the digestive ability, metabolism and disease susceptibility. Its aim is to 'turn off the bad genes' in an individual's system, and 'turn on the good genes' as required, to ensure a more healthy life, with better outcomes from illness.

Although there are well over 7 billion people alive on the planet, each one a unique individual, Dr. D'Adamo has managed to break them down into six GenoTypes which are determined by family history, your personal health history, teeth shape, fingerprints, jaw angle, taste, head shape, finger and body measurements and in particularly your DNA/genes in your ancestry. His Advanced GenoType Calculator also included your ABO blood type and secretor status.

The six Genotypes known as GT1 to GT6 as follows:-

Reactive World View "Inflammation-Based"	Thrifty World View "Metabolic-Based"	Tolerant World View "Receptor-Based"
GT1 - Hunter Always Type O	**GT2 - Gatherer** Type O or B	**GT3 - Teacher** Often Type A, occasionally AB
GT4 - Explorer All groups - Type O, A. B or AB	**GT5 - Warrior** Often blood type A or AB	**GT6 - Nomad** Blood type B and AB

A type A individual can only be a Teacher, Warrior or Explorer and their diets should be adjusted accordingly. The Teacher GenoType in particular should be alert and aware of their diet and lifestyle, especially as far as cancer is concerned.

The Teacher has an overly tolerant immune system, sensitive digestive system, and increased mental stress when in poor health. **The immune system sometimes doesn't catch cancer mutations in the early stages**. They tends to tolerate bad microbes rather than eliminate them. **Their poor immune surveillance means vulnerability to infections and a higher than average risk for many common cancers including, but not limited to breast cancer. They have a potentially high risk for breast cancer later in life**.

SUMMARY

As a student of the University of Life, I have constantly strived to improve my body and mind through personal development, exercise and nutrition. I have witnessed friends and family who have either suffered and/or died from various forms of cancer, all, of whom ask "*Why me? I eat well, I exercise. Why me?*". I have spoken to an old friend only last week who has had breast cancer and a mastectomy in her early 40's. My best friend's mother has had the same. Originally I had no idea why. I was also confused by the media reports saying one day "*Red wine is good for you*" only for the next to say "*Red wine is bad for you*". Then "*Coffee is good is good for you*" followed by "*Coffee is bad for you*". If I was confused, someone who has been in the diet and nutrition industry since 1987, what must others think about it all? I now know why.

In March 2011, I discovered The Blood Group Diet® which changed my life. Having had blood coming out of my backside for about 10 years on and off, I stopped eating red meat, something I had always done (beef and steak were my favourites). The bleeding stopped immediately and to date hasn't returned. I firmly believe that the reason it stopped was because I was a blood group Type A – and according to Dr. D'Adamo's book, I shouldn't have been eating red meat. No one told me this, mainly because no one I knew, had any idea about it, including my doctor.

I now firmly believe that if everyone were to follow at least **The Blood Group Diet®**, but ideally the **GenoType Diet®**, it will have a profound effect on the health and wellbeing of the planet.

RESOURCES

Full **Blood Group Diet®** and **GenoType Diet®** consultations along with **blood group testing** and full supplement programme to suit you are available from:-

Paul Hopfensperger MIfHI
Body and Mind Studio Limited
The Wellness Centre
16 Risbygate Street
Bury St Edmunds
Suffolk IP33 3AA **Tel:** +44 (0)1284 756444
United Kingdom **E-mail:** paul@bodyandmindstudio.co.uk

Further information can be found by visiting our dedicated website @:-

www.BloodGroupNutrition.co.uk

A selection of books by Dr. Peter D'Adamo can be purchased from our online bookshop at @:-

http://bodyandmindstudio.co.uk/diet-and-nutrition/dadamo-personalised-nutrition/books-literature/

THE INSTITUTE FOR HUMAN INDIVIDUALITY

Paul Hopfensperger has been involved in the diet and nutrition industry since 1987 and is a Fellow of The Institute for Human Individuality (IfHI) *cum laude* (2012) and Master Instructor (2013). IfHI is a USA based organisation whose mission is to advance the scientific basis and clinical application of human individuality in health and disease, through medical education, outreach, research and patient care.

IfHI has as its prime goal the fostering of education and research in the expanding area of human nutrigenomics and epigenetics. These emerging sciences seek to provide a molecular understanding for how common dietary chemicals affect health by altering the expression or structure of an individual's genetic makeup.

Under the guidance of Dr. Peter D'Adamo and the Research Faculty, IfHI is committed to assuming a leadership role in this fast-developing field of scientific inquiry. It is the goal of IfHI to research the genetic influence on our response to diet and nutrition and to develop new applications and practices that allow this information to benefit humankind.

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