Down Syndrome

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Down syndrome is a common genetic condition associated with intellectual disability and characterized by a variety of additional clinical findings. The syndrome is caused by the presence of all or a part of a third copy of Chromosome 21, mainly an extra chromosome. Chromosomes are bundles of genes which regulate the body. The syndrome is known also under the term of Trisomy 21. That extra chromosome leads to a range of issues that affect the one who carry it, both mentally and physically. This entity is mainly associated with growth delays, intellectual disability over a characteristic facial feature. Most young adult with Down syndrome will also demonstrate an average IQ around 50, representing the mental ability of a 9-year-old child but there may be variations. It is a lifelong condition which can’t be cured but the children can enjoy a full and meaningful life when proper care are provided.

The parents of the affected child are genetically normal. The younger the mother the lesser chance in having a child with the Down syndrome. In a young woman of 20 years there is a less than 0.1% of probability to encounter such condition but in an, older mother of 45 years old the chances triple. Advances in medicine has allowed us to screen during the prenatal period, individuals at risk. Then genetic testing can be performed as well although nowadays regular screening for health problems is recommended through a person’s life. This extra chromosome is believed to occur by chance and once the diagnosis is made, the mother has the choice to terminate the pregnancy through abortion.

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Special education and exercises programs has rendered these kids more functional in coping with their daily living activities. Many graduate from high school but rarely they can attend collegial schools while others will require specialized education. Less than a quarter of these children in the United States are able to perform in special work activities like being a helper at a grocery store or working at a desk with proper training, but they will require financial help or will remain dependent of their parents for life. Their life expectancy is around the fifties.

Let us define a little this condition. In the human body, every cell has a nucleus where a genetic material is stored under the forms of “Genes” carrying our inherited traits. They are grouped along rod-like structures called “Chromosomes” Each cell has a nucleus containing 23 pairs of chromosomes, half of which are inherited from each parent. Down syndrome occurs when an individual has a full or a partial extra copy of the “Chromosome 21”. This additional chromosome alters the course of development and causes the unique characteristics found in individual with Down Syndrome.

Down syndrome is the most common chromosomal abnormality in humans due to this anomaly of the chromosome 21 (Trisomy 21). The syndrome is seen in one on 700 to 800 births worldwide while in the USA, approximatively 500 live births annually while more than 300,000 are living with the syndrome. It was estimated that around 5.4 million individuals in 2015 were found to live with the syndrome around the world, resulting in 27,000 deaths but in 1990 the number of death was estimated to 43,000. The risk in having the syndrome increase with the maternal age. We owe to John Langdon Down, a physician from Cornwall, England, the original description of this syndrome in 1862 but later published his essay in 1896.although two previous French physicians, a psychiatrist Jean-Etienne Domonique Esquirol in 1838 and a generalist Edouard Seguin in 1844 reported earlier some aspects of the clinical features in describing it as a form of “Cretinism”. This will be only in 1959 that the genetic cause of the disease was demonstrated and the condition was named “Down Syndrome”, the most recognizable form of mental disability. Patients presenting with Down syndrome, have physical and intellectual disabilities, and once they become adult, their mental abilities are comparable to the one of an 8-year-old child. They have poor immune function and demonstrate problems reaching developmental maturity at a later age. They exhibit major health problems including congenital heart defect, epilepsy, leukemia, thyroid diseases and even mental problems especially at an early age through a form of Alzheimer, in less than 50% of the cases. Down syndrome is associated with multiple musculoskeletal problems related to ligamentous laxity, joint hypermobility and hypotonia. A common physical trait among these children suffering of Down Syndrome is a low muscle tone and a short stature. Some may have an abdominal wall defect or present with an umbilical hernia.

In the ancient times, such children were killed or abandoned. A recent discovery found an infant who was believed to have been buried in 3200 BC at Poulnabrone dolmen in Ireland with the fascies. Many potteries were discovered in the pre Columbian era, depicting faces of Down Syndrome kids especially in Ecuador. In the 16-century a painting representing The Adoration of Christ child represented a down syndrome child. During the 20th century, many individuals with the syndrome were institutionalized with no chances in having their medical conditions treated properly. They died certainly in their early adulthood. Some of them were even sterilized as we have seen during the second war in the Nazi camps, with a systematic involuntary Euthanization (Act of ending the life of a person for a medical reason). It is only in 1950 that the karyotype was discovered and in 1958 Jerome Lejeune reported the discovery of the extra chromosome. After scientific disputes between scientists, recognition was given to Marthe Gautier by the awarding of the “Grand Prize”. Similarly, old maternal age was found to play a role in the transmission of the disease.

Characteristic features like a flat and wide face, flat nasal bridge, small chin, upward slanting of palpebral fissures, giving the eyes a unique perception that children with Down Syndrome shares on a distinctive fascies, similar to the features found in the Mongolian race. This was the reason why John Langdon termed these characteristics as “mongoloid”. The World Health Organization (WHO) dropped the term in 1965 after a delegation from the People Republic of China (Mongolian’s people), requested it but the term Mongolism was still used as criteria for idiocy or imbecility until the early 1980’s. It became unacceptable to use the term “Mongoloid”. More these children will exhibit poor muscle tone, a flat nasal bridge, a single deep crease in the palm of the hands (reminding a simian hand), a protruding large tongue and a short neck, certainly
facilitating sleep apnea in almost half of the cases. Down syndrome patients enjoy an excessive joint laxity. The feet present typical deformity with a wide first web space coupled with abnormal pattern involving the second toes or Plano valgus deformities. The hands similarly may also demonstrate an abnormal pattern at the fingertips and short fingers. Around 20% of the Down syndrome patients have an atlanto-axial instability which may lead to instability. As orthopedist we get involved often with the care of such athletes. Any athlete with Down Syndrome willing to participate in competitive sport activities, needs to have a cervical spine series and a medical clearance. This abnormality may result in spinal cord injury in 2% of the cases. They exhibit a short stature and may have spine deformities like scoliosis. A third of patients will have signs of hips dysplasia or dislocations. Others may develop unilateral or bilateral slipped capital femoral epiphysis often associated with hormonal problems due to a hypo-functioning thyroid...Knee problems are also frequent (20%) mainly demonstrating a patellofemoral instability with often a deficient medial retinaculum forcing a lateral subluxation or dislocation of the patella. Patients tend to become obese in their short stature and physicians will carry special growth charts for such children.

About one third of patients with Down syndrome exhibit intellectual instability. Delay in crawling (8-9 months) is typically seen as well as an inability to ambulate (20 months). Most individual with the syndrome will have a mild (IQ=60) to severe (IQ=30) intellectual disability. The one presenting the mosaic form of Down syndrome may perform better. They understand better that they can speak. Generally, they express themselves in a “stutter” or an irregular speech, difficult to understand at time. After reaching the age 30, they generally lose their ability to talk. Down syndrome can do well in social activities. Mental illness occurs in 30% with autism (5%). They are generally happy but can express variation in their emotions. Anxiety and Depression can also be seen during early adulthood. All individuals exhibiting the syndrome are at risk for epileptic seizures like infantile spasms more often in the adults (50%) than the children (10%). By the age of 40 and older, there is higher incidence for developing Alzheimer disease (15% to 70%). I will refer all to the previous AMHE Newsletter dealing with Alzheimer disease (AMHE Newsletter # 262 and reference # 21).

Down syndrome patients have a display of vision and hearing problems. Strabismus (20-50%), Cataracts (15%) may be present at birth with cloudiness of the lens, others may present a thinning of the cornea called “keratoconus” or even an increase in the pressure in the eye (Glaucoma). Some may require glasses or contact lens to correct the refractive errors while others may present small white or grayish-brown spots around the iris, in almost 80% of cases: they are called Brushfield spots. Up to 90% of children with Down Syndrome exhibit hearing problems. An otitis media (80%) with an effusion can be discovered with chronic subsequent ear infections (50%), during the first year of life because mal functioning of the Eustachian tube. Excessive ear wax can become a cause of hearing loss after the obstruction at the external canal. It is important for a kid to assure fine hearing because any degree of hearing loss brings a negative effect on speeches, language understanding and academics. Hearing problems may deteriorate also social communication. In 60% of Down syndrome patients, a sensorineural type of hearing loss is expected.

40% of patients with Down Syndrome will suffer from congenital heart disease. The majority will demonstrate an atrioventricular septal defect more often than a ventricular septal defect. The older they become, the more they may develop valvar problem. A tetralogy of Fallot (Ventricular septal defect, stenotic pulmonary valve, thickening of the right ventricular wall) or a persistent ductus arteriosus is occasionally seen.

There is no predilection for malignancy in Down syndrome but the risks of testicular cancer or blood cancer like leukemia can increase as reported by Caird (2006) and Alman (2014). A simple example is with the Leukemia’s: Acute Lymphoblastic leukemia (ALL) and Acute Megakaryoblastic Leukemia (AMKL) have high incidence among Down Syndrome patients while other non-blood cancers are seldom seen although cancers deriving from stem cells has demonstrated a higher risk. Leukemia’s are believed to be 15 times more often in children with the syndrome. The Acute Lymphoblastic leukemia is 20 times more common but the megakaryoblastic form is even 500 times more common. The megakaryocytes are precursors of blood platelets. Acute Lymphoblastic Leukemia accounts for a little less than 3% of all childhood cases but more often seen in the older children or the one with a white blood cell greater than 50,000. The outcome is poor. AMKL is a disorder of blood cell production (Transient myeloproliferative disease) in
which the non-cancerous megakaryoblasts sustain a mutation in the GATAT gene during the late period of pregnancy affecting 3% of the babies with Down Syndrome and spontaneously resolving within three months to 5 years after birth. In such cases, serious blood or liver complications can be seen.

Major solid cancers of the lungs, breast, cervix present with a lower risk because of the “Tumor Suppressor Gene” present in the chromosome 21 in the oldest patient after the 50’s while a low thyroid hormone level is generally seen in more than half of patients on Down Syndrome. Often a non-functioning thyroid is noted at birth or discovered later through an immunosuppressive mechanism resulting in Graves’ disease. Finally, a type I Diabetes Mellitus is commonly seen.

More than half of Down Syndrome patients will suffer of constipation with a potential to develop Hirschsprung’s disease in 15% of the cases due to a lack of nerve cells controlling the colon. Duodenal Atresia, Meckel Diverticulum, Imperforate anus and Celiac disease can be seen in 15% of cases. These individual tend to be susceptible to gingivitis with periodontal disease and loss of the lower front teeth because of a lack of hygiene and the presence of plaques contributing to an increase incidence in yeast infection especially with “Candida Albicans”. Their saliva is scanty but tend to be alkaline in nature and providing a greater resistance to tooth decay but “Bruxim” (Teeth grinding or clenching) is common. A hypotonic lip with a narrow palate can exhibit crowded teeth and a delay in eruption of adult teeth generally missing but often presenting shorter roots. Rarely, they may have other congenital malformation like cleft lip and palate with enamel opacification (20%).

Male Down Syndrome generally are sterile because of a poor sperm development while 50% of female may exhibit a lower rate of fertility compared to a normal population. Women will reach menopause at an earlier age. Since 2006, it is reported that 3 males have fathered children while 26 women have given birth and it was found that half of the children were carrying the syndrome. We have already discussed the way such individuals are born with three copies of the gene on the chromosome 21 rather than two. Often the parents are genetically normal. It is important to know that a couple who bought to this world a child with the syndrome, carry a 1% chance in having a second child with the syndrome even if both parents have normal karyotypes.

The extra chromosome may arise through different mechanisms. the most common is a complete extra copy of chromosome 21 (trisomy 21) found in 95% of cases but other cases may represent a mosaic pattern, the least common form of Down Syndrome, in which 1 % of cases. This is the Mosaicism” or “Mosaic Down Syndrome” where the there is a mixture of the two types of cells, some containing the usual 46 chromosomes and some containing 47 carrying the chromosome 21. Individuals with the mosaic pattern appears to have fewer characteristics of the syndrome. Finally, a third mechanism will present with a” ring chromosome” or “isochromosome” called the “Robertsonian translocation in another 4% of the cases. This “isochromosme” originates from the separation of two long arms of the chromosome 21, during the egg or sperm development. The total number of chromosomes in the cells remains 46 and an additional full or partial copy of the chromosome 21 attaches to another chromosome, generally the chromosome 14. This is the translocation phenomenon in Down Syndrome. Regardless the type of Down Syndrome a person may have all will carry the extra chromosome 21 in their genetic baggage. All 3 types of Down Syndrome are related to genetic conditions. but 1% of all cases may have an hereditary component from parent to a child. Heredity is not a factor in Trisomy 21 (non-disjunction) or in the Mosaicism but there is a hereditary component in the translocated cases where maybe 1/3 of cases may have received the gene from one of the parents. A mother who has given birth to a baby with trisomy 21 or translocation has increased her chances in having another baby with the syndrome by 1/100. The risk in translocation is around 3% if the father is a carrier but 15% if the mother is at the origin of the translocation. Genetic counseling can determine the origin of the translocated gene.

A Trisomy 21 (Karyotype 47, XX, + 21 and 47, XY, +21) is caused by the failure of the 21th chromosome to separate (Non-Disjunction) during the sperm or egg development resulting in the formation of a sperm or an egg carrying an extra copy of the chromosome 21 giving them 24 chromosomes. Then when combined with a normal cell from the other parent, the baby will have 47 chromosomes with three (3) copies of the chromosome 21. Almost 90% of this trisomy 21 results from the non-separation in the mother, around 8% from the non-separation in the father and in the remaining 3%, the non-separation is noted after the sperm emergence. With
this extra material, called the “Robertsonian translocation”, the long arm of the chromosome 21 is attached to another chromosome, often the chromosome 14. There is no relation with the old age of the mother but if the mother is affected, there will be a 15% chance of having a child with the syndrome and a less than 5% chance when the father is affected. In the family, normal children may also inherit the translocation and carry a higher probability in transmitting the gene to their children. This is called “Familial Down Syndrome". Some researchers have suggested that the Down Syndrome critical region is located at bands 21q22.1-q22.3 in the area including the genes for amyloid, superoxide dismutase and this is why the dementia that occurs with these patients is due to an excess of amyloid beta peptide in the brain. That amyloid beta is processed from the amyloid precursor protein located on the chromosome 21. I will refer the lector to the article on Alzheimer published in the Newsletter of the AMHE # 262. We have already described the way senile plaques and neurofibrillary tangles are present in the down syndrome patient by the age of 35. They also lack in lymphocytes and produce less antibodies rendering them prone to infection. The changes seen with Alzheimer disease among the young Down syndrome patients, may represent an “epigenetic clock” in the trisomy 21.

How do we screen for Down Syndrome? Amniocentesis or chorionic villus sampling is a good way to confirm the risk of Down syndrome. They are reliable tests but they increase the risk for miscarriage (1%). The risks for limb problems may be increased if the test on the chorionic villus sampling is carried before 10 weeks of gestation. The earlier the test performed the riskier it becomes and this is the reason an amniocentesis is not recommended before 15 weeks of gestation. 92% of pregnancies in Europe are generally terminated. Countries like Iceland or Denmark have no children with the syndrome. In the United States, the termination rate is around 75 % depending on the population involved in the survey. One third of American women would request for a termination of the pregnancy if the test confirm the syndrome. Once the baby born, the diagnosis can be also suspected on the child’s appearance at birth. Nowadays, it is recommended to screen for Down syndrome all pregnant women. A number of tests are available: Amniocentesis or Chorionic Villus Sampling in the first and second trimester capable of picking up to 95% of cases. There may be a small 2% chance of false positivity. Many other tests can allow us to find blood markers during the first and the second trimester of the pregnancy. Testing in both trimesters is often recommended with the addition of an ultrasound. Most tests will look for alpha fetoproteins, estradiol total hCG and free beta hCG which can be detected in around 65% of the cases especially during the second trimester. The mother’s blood can be tested for fetal DNA during the first trimester is considered a good screening option in pregnancies at risk for trisomy 21. There is an accuracy reaching more than 95% reported in the third trimester of the pregnancy. Confirmatory studies are still necessary to asset the diagnosis with invasive techniques of amniocentesis. examples like ultrasound and nuchal transparency with blood samples for hCG. Quad screen before 20 weeks to obtain alpha fetoproteins or a cell-free fetal DNA around 10 weeks via a blood sample taken from the mother to analyze the DNA.

Some parents still chose to avoid an abortion. Once the baby is born, an early childhood intervention to screen the common problems, medical treatment as needed, a good family environment and work training can improve the development of such affected children. Special education and training can improve the quality of life. I know personally for having participated to the life of my beautiful niece Stephanie with the syndrome. It took a family effort to help her reach a functional level. I dedicated this page to her and to all around the world who have acquired this extra chromosome 21. Raising such a kid is a lot of work for the parents and the family. All childhood vaccinations are recommended and the devotion of a pediatric physician has to be encouraged while ongoing problems will present regularly during her development. Early hearing and Vision problems in the first 6 months, hormonal imbalance with the thyroid, Gastrointestinal and muscularkeletal problems, obstructive sleep apnea etc. EKG’s and ultrasounds of the heart, radiographic studies neck, knees, hips, hearing aids and other devices to enhance their learning capabilities. Sign language… Behavior problems… Speech therapies… Special education programs and medications… physical therapy and conditioning have imposed on congress the need to create a Disability Act in 1975 requiring schools to facilitate attendance to such students.

Many procedures have become routine in the care of such patients. Multiple throat infections have imposed Tonsillectomies to help with the sleep apnea. Tympanostomy tubes may be needed because of multiple ear infections. A continuous positive airway pressure machine (CPAP) is useful as well as physical
therapy and educations to improve skills. It is important to prevent respiratory syncytial viral infections (RSV) in using human monoclonal antibodies especially when they have heart problems. or monoclonal infections. In the early cases of dementia, medications like donepezil, galantamine and memantine and other drugs have been used. Plastic surgery has been tried to change the physiognomy of the down syndrome patient but it remains controversial. Societies has learned to have a better acceptance. Chiropractic treatment, massage therapies, animal therapy or even the use of naturopathy have failed to improve the quality of life of such patients.

Many children with the syndrome attend regular school in Sweden and many have graduated from high school. In the United States as well 40% of the children who attended high school graduated to a point that they may be able perform in paid jobs and 30% reach the goal. The one presenting the mosaic form of Down Syndrome exhibit better outcomes. They all have a higher chance of early death because of heart problems or infections. With better care now, their life expectancy has increased tremendously to a point that almost 80% will survive past 30 years of age. Rarely, they will reach the 70’s.

This syndrome is the most common chromosomal abnormality in humans. If at the beginning of the new millennium, Down Syndrome was seen in one in 1000 births, now in most countries, parents have accepted early abortion to prevent suffering. The multiple prenatal screening and testing as discussed earlier, have also convinced many parents to terminate the pregnancy. We have seen also spontaneous abortions. The maternal age affects the probability. After the age 50, it is believed that one in 44 mother will deliver a baby with Down Syndrome while the father’s old age may be as well a risk factor. Most obstetricians will argue that the screening for Down Syndrome and the results should be discussed with the pregnant mother and it will become her choice or the family choice to terminate or keep the pregnancy, based on their personal and religious beliefs. Others in the United States may consider testing and abortion discriminatory, and if they are anti-abortionist they may consider it only if the fetus is disabled. 50% of women over the age of 50 in the USA have agreed to screening if they become pregnant.

The religion has often a part to play in the mother or parent decision to keep the baby or abort. Some Protestant denominations have accepted the abortion when the fetus has Down Syndrome but the Roman Catholics or the Orthodox see it with different eyes and do not accept it. Disagreement exists also within Islam regarding the acceptability of an abortion. Women may face stigmatization if they chose to abort. Similarly, many organizations have fought for the admission of Down Syndrome kids into the general school to allow a greater understanding of the condition and better support to the families involved especially when too many of these kids were placed in mental institutions or asylums. Many societies like the Royal Society for Handicapped Children in UK (1945), The National Down Syndrome Congress in the USA (1973) were founded to support the cause. The little sisters Disciples of the lamb in France (1985) were all placing their efforts for the well-being of these children. A world Down Syndrome Day was initiated in 2006 and recognized by the United Nations General Assembly in 2011. Hope is on the way because the chromosome 21 in still being studied to improve the intelligence among the one suffering from it, by the use of stem cells or gene therapies on animal model (Ts65Cn mouse). It is believed that other animals may have an equivalent of Down Syndrome especially among the great Apes, a trisomy 22 was discovered, very common among the chimpanzees (1969) and a Bornean Orangutan (1979). A chimpanzee named “Kanako” born in 1883 in Japan, has become the longest lived animal with common features similar to the one found in humans with the syndrome.

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References:


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Une mère affolée amena à ma clinique l’autre jour sa fille de 19 ans après que celle-ci n’ait réussi aucun des cours qu’elle prenait à l’école. La mère s’inquiète que la fille va devoir refaire sa dernière année d’études classiques tellement elle a échoué à tous les examens comptant pour la finale depuis près de 6 mois. La fille, ajoute-t-elle, reste éveillée toute la nuit et refuse d’aller au lit. Comme elle ne dort pas assez, elle est très irascible et démontre des comportements agressifs envers ses frères et sœurs à la maison. Elle paraît très calme en apparence et ne semble avoir, au prime abord, aucun trouble psychologique. Quand j’ai approché la jeune fille, elle avoue avoir des problèmes de sommeil et qu’elle a peur d’aller au lit. Car, ajoute-t-elle, il y a toujours quelqu’un ou quel que chose qui rentre dans la chambre ou l’attaque sans qu’elle puisse se défendre. Par moments, dit-t-elle, elle peut entendre des gens parler au dehors ou circuler autour d’elle. Mais son corps est d’une telle lourdeur qu’elle est incapable de soulever ses membres ou de crier au secours. Cette lourdeur de plomb qui pèse sur sa poitrine et sur d’autres parties de son corps est ce qui lui fait avoir peur le soir et l’empêche d’aller au lit. Bien que ces épisodes ne durent que quelques minutes, elles causent cependant une telle frayeur que la patiente préfère résister au sommeil et refuse d’aller au lit. Pour se protéger et se défendre, elle a du placer un couteau sous son oreiller au cas ou elle aurait besoin de s’en servir la nuit. Ces phénomènes sont observés au moment de tomber en sommeil la nuit, aussi bien qu’au matin lorsque la jeune femme se réveille, mais plus fréquemment le soir qu’au matin. Nombreux sommes nous à avoir fait une telle expérience à l’entrée du sommeil ou au moment du réveil. Si c’en est le cas pour vous, vous avez connu un épisode de ce qu’on appelle : LA PARALYSIE DU SOMMEIL.

C’EST QUOI LA PARALYSIE DU SOMMEIL ? La condition s’entend comme étant une immobilité complète du corps qui s’observe au moment de d’entrer en sommeil ou à l’heure du réveil. La personne entend soudainement des chuchotements dans sa chambre et autour d’elle, et ressent que quelqu’un est entrain de la toucher ; pourtant elle est complètement immobilisée sur son lit et n’en peut rien. Pendant que tout cela arrive, la personne est pourtant consciente et peut observer tout ce qui se passe au tour de lui. Si le phénomène se produit au moment de tomber en sommeil, la paralysie est dite hypnagogique ; par contre, si elle arrive au moment du réveil elle est plutôt hypnopompique. Les deux termes viennent du
grec où (hupnos=sleep; pompē=sending away; agogos=leading to).

De par le monde, il existe des millions de cas de gens à souffrir de la PARALYSIE DU SOMMEIL. Aux États-unis par exemple, il y a près de 3000.000 de cas qui sont recensés annuellement. Le groupe d’âge le plus affecté se situe entre 18 et 35 ans. La maladie serait liée aussi à une certaine prédisposition familiale et pourrait durer plusieurs années.

QUELS SYMPTOMES OBSERVE-T-ON DANS LA PARALYSIE DU SOMMEIL ?
Les principaux symptômes observés dans la paralysie du sommeil sont : l’immobilité corporelle, l’hallucination qui peut être hypnopompique ou hypnagogique, une peur intense et une sensation de pesanteur. Souvent c’est cette sensation d’être écrasé par un poids lourd qui fait dire aux gens qu’ils sont immobilisés par des esprits qui viennent les attaquer.

L’hallucination quant à elle, c’est une altération sensorielle qui engendre une perception sans la présence réelle de stimulus. Ainsi, la personne peut entendre, voir, sentir que quelqu’un ou quelque chose est dans la chambre sans qu’il n’y ait personne. ou quoi que ce soit, ni de bruit.

Lorsque cela arrive, la personne est dans un état de grande frayeur et réalise qu’elle est consciente de ce qui se passe autour d’elle, mais sans pouvoir réagir.....

CAUSES ET FACTEURS. :
Il n’existe de vraies causes de la PARALYSIE DU SOMMEIL. À part qu’elle pourrait être d’ordre génétique l’usage de stupéfiants serait responsable de la condition dans un grand nombre de cas. Le stress, des changements dans les habitudes, l’anxiété et le manque de sommeil sont autant de facteurs qui sont impliqués dans la paralysie du sommeil. S’il est vrai que les gens souffrant de narcolepsie sont beaucoup plus touchés par la maladie, il n’en demeure pas moins qu’on peut tous être atteints par la maladie.

PATHOLOGIE DE LA PARALYSIE DU SOMMEIL :
Il est expliqué qu’au moment de rêver, qui est généralement considéré comme le temps de sommeil dit paradoxal, il se produit une atonie musculaire qui évite à notre corps d’agir et de ne pas troubler le rêve en progression. A ce moment là, le cerveau est dans un état de semi-conscience malgré l’atonie musculaire, et détecte les stimuli avoisinants, c’est ce qui engendre les hallucinations que l’on ressent.

LE SOMMEIL EST DIVISE EN DEUX GRANDES ETAPES : Non REM et REM.
Le Non REM sleep contient trois stages avec des fréquences différentes et variables pour chacun d’entre eux...

D’abord, C’est la fréquence Alpha où les yeux sont fermés et la personne est calme, consciente et détendue. Elle est de 8 à 12 cycles par seconde. Puis vient la fréquence thêta de l’ordre de 4 à 7 cycles, qui apparaît lorsque le sommeil commence à se consolider. Enfin arrive la fréquence Delta avec des cycles allant jusqu’à 4 par seconde et qui prend place à la fin du NONREM stage.

A mesure que la personne entre dans un sommeil plus profond, le cycle va en diminuant sur l’électroencéphalogramme. C’est ainsi que se rencontre la fréquence Delta chez les gens en profond sommeil. Par contre quand la personne se prépare pour dormir ou commence déjà à dormir c’est la fréquence Alpha avec des interférences de type Beta que l’on va observer.

Dans les premières 90 minutes de sommeil, on retrouve exclusivement le NONREM sleep. A mesure que la nuit progresse on commence à rencontrer d’avantage de REM sleep. Le cerveau commence à se réveiller et les fréquences retrouvées sont d’un mélange de fréquences Alpha avec des cycles de 8 à 11 ,et de fréquences Beta avec des cycles de 11 à 30 par secondes.

Ce qui arriverait dans les cas d’hallucinations hypnagogiques et hypnopompiques, c’est une intrusion rapide de fréquences
beta(electroencephalogramme d’une personne avec un cerveau actif) qui chercheraient à précipiter le réveil alors que la personne est encore en tain de rêver, et se trouve dans un état de complète atonie musculaire.

Tout comme les mêmes fréquences Beta sont aussi incriminées dans la phase hypnagogique du sommeil au moment où le corps déjà, commence à se détenfer. Rappelons qu’à mesure que l’on avance à travers les différents stages du NON REM, les fonctions physiologiques diminuent : Le Cœur bat moins rapidement et la pression artérielle diminue jusqu’à ce que le corps reprennent ses activités vitales à nouveau dans le REM.

La paralysie du sommeil est un acte terrifiant et angoissant dont l’origine ou la cause n’est pas bien connue. Elle n’a aucun effet sur l’organisme à en croire les spécialistes du sommeil, Si elle peut être due à un manque de sommeil, elle peut en même temps causer la peur d’aller au lit comme c’est le cas pour la patient de 19 ans que j’ai introduite au tout début de l’article. Il est recommandé à la personne qui est en prise à la paralysie du sommeil de rester calme et de se dire que tout va rentrer dans l’ordre. Les tests de laboratoire ne sont pas nécessaires.

Certains recommandent l’utilisation des SSRI tels le Paxil, le zoloft ou le prozac pour atténuer les effets de la maladie. Néanmoins, c’est une condition qui peut durer des années mais qui finit tôt ou tard par disparaître avec cependant des rechutes épisodiques. Quand ce phénomène arrive, beaucoup l’interprètent comme étant une énergie négative ou une sorte d’esprit malin qui cherche à prendre possession du corps de la personne. Sans nier que la possibilité d’être en guerre avec les démons puisse exister, je conseille toujours mes patients qu’ils aillent voir un spécialiste pour leurs problèmes mentaux ou autres, quitte à chercher ailleurs au cas où ils ne trouveraient pas de solutions réelles ou de soulagements à leurs problèmes. En effet, Il y a des gens qui dépensent toute une fortune ailleurs pour venir seulement très tard, frapper à la porte d’un spécialiste, et demander de l’aide. Pourtant la réponse est souvent là à portée de main, et tout ce qu’il faut faire, c’est de venir frapper à la bonne porte.

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In the midst of this pandemic, we are facing an outright race to develop an effective vaccine to protect against this scourge. This race is redolent of the previous competition to conquer outer space and bragging rights are in the balance among the contenders. What should be a public health matter is entwined in politics and any vaccine so quickly developed may have an asterisk with it, an exclamation point about the suspicion growing about its safety, efficacy. Let’s hope that the first manufactured vaccine will not be a rushed one. Hanging in the balance will be long-lasting damage as an unintended consequence.

Recruitment of patients for any vaccine, always problematic, becomes an obstacle among the African American population where suspicion reaches fever pitch. It cuts across a historical fault line. We may have some difficulty understanding this attitude since back home patients tend to be gullible. However, we need to be aware of some historical facts that have stained our profession and nowadays, we may be innocent bystanders or guilty by association, a nuance without any practical difference. Whether we are aware of it or not, like it or not, we are part of the establishment and will bear the brunt of patients’ misgivings or ire.

Our colleague, Dr. Vladimir Berthaud as chief of Infectious Diseases at Meharry Medical School is the principal investigator at his site for a vaccine trial. He reports that African Americans’ reluctance to participate is a conflation of events: past ethical lapses, recent mistreatment at the hands of police, Trump’s offensive tweets, their higher death rate when suffering from COVID-19. Sometime when he is interviewed, he becomes the subject of pointed questions about his commitment, professional integrity and so on. As he states, the miscommunication and confusion highlighted at the highest level of government makes recruitment in vaccine trials extraordinarily difficult. Many of us have faced the same grilling making for an awkward conversation. We have all witnessed the recurring assaults both physical and verbal lobbed at African Americans over the past year. However, a lot of us are not so familiar with some significant past historical facts.

To the extent we become fluent with these facts and are able to have an intelligent conversation, this will make it easier to state our position of empathy for the patients’ concerns, our ethical conviction of “Do no harm,” our sacred creed taken during our recitation of our Hippocrates’s oath. So, what are some of these harrowing cases that were laden with ethical lapses?

A-Tuskegee Syphilis Experiment Study. The CDC official website chronicles this shameful episode at www.cdc.gov/tuskegee/timeline.htm. Tuskegee University was the creation of Booker T. Washington in 1881 as the site of formation of technical cadre of African Americans and where the famous Washington Carver made some groundbreaking discoveries in Tuskegee, Alabama. Starting in 1932, under the auspices of the US Public health Services, a study was conducted about syphilis among 600 + Negros. For the next 40 years, despite the development of penicillin and its success against the disease, none of the recruited patients received any treatment and none of them was aware of the fact they were being used as guinea pigs. All they knew was they had “bad blood,” a colloquial term for the disease.
What is very embarrassing is the fact that as late as 1969, the local chapter of NMA as well as AMA supported the study according to the CDC timeline cited above. Again, according to the official timeline (CDC), Dr. Eugene H Nibbles Jr., a prominent African American physician, spearheaded the effort to start the study. According to his official bio on Wikipedia, he was well aware of the fact that no treatment was offered. Eunice Verdell Rivers Laurie was the nurse coordinating the study. She was also an African American. This matter has been litigated in the press over the years and some apologists point out that clinical study being conducted at black institutions on a par with others was the medical reason behind Dr. Nibbles’s decision to conduct the experiment. This explanation doesn’t pass the smell test. There’s no justification ever for withholding treatment to an afflicted patient seeking care unless the patient is of sound mind and refuses. In 1972, when the story about the true nature of the study broke out in the press, there was an uproar and the study came to a close. A year later there was a law passed for reparation, a pittance of 10 million dollars for the patients and their families for paying for their medical bills. President Clinton on May 16, 1997, issued an official apology about this mishap during a White House ceremony. This sad experiment forever etched into people’s minds a lasting suspicion of the medical establishment, irrespective of the provider’s ethnic background.

B- The Vivien Thomas story. A very interesting chapter in the annals of African Americans and Medicine is the story of Vivien Thomas and Alfred Blalock at Johns Hopkins Hospital. Anyone interested ought to read his autobiography “Partners of the Heart,” (University of Pennsylvania Press, 1985). It is also available as a biopic of the same title. Basically, Vivien Thomas was an intelligent black man who always wanted to be a physician. A victim of the Great Depression, he couldn't attend college and when he did try to enroll at a black college, he was turned down. He ended up working as a janitor at Vanderbilt University Hospital. In 1930, he met a young white doctor named Blalock. He was given a chance to be a lab assistant and he self-taught surgery on animals. He perfected the art to the extent that when Blalock transferred to John Hopkins in 1941, he took him along. There began a collaboration spanning decades where Thomas practiced surgery on animals, then taught Blalock, guiding him through open-heart surgery but getting no recognition for his work. There was never any mention of his participation in the first-ever case of open-heart surgery; it was successfully performed on a blue baby... The historical fact is that Blalock would not dare operate without Thomas's supervision, literally! Besides Blalock, Thomas trained countless other surgical residents and attending physicians at the institution. This type of procedure helped the hospital generate lots of revenues but as luck would have it, Vivien Thomas was paid a meager salary and he had to work as bartender at night at receptions attended by the very surgeons that he trained during the day to make ends meet! This was at the very least unethul and downright unequal treatment of a professional individual. Decades later, he would receive an honorary medical degree by Johns Hopkins and would become an official member of the faculty. Strangely enough to this day, Johns Hopkins has named a building after Blalock and upon entering it, portraits of both men are to be seen. If a building is to be named after pioneers of cardiovascular surgery, wouldn’t it more appropriate to have both names included? This type of treatment of a talented Afro American who helped in the furtherance of cardiovascular surgery reeks as an after-thought and begets nothing but rancor from African Americans.

C- Henrietta Lacks story. Johns Hopkins resurfaces again. One needs to remember the historical context. Baltimore, geographically north of the Mason-Dixon line was for all practical purposes of the mindset south of such a line, just like Washington, DC was for a good part of the previous century. Therefore, the local African American population received far less than equal treatment at the hands of the establishment. Henrietta Lacks was a poor black woman who had cervical cancer; her cells were harvested 61 years ago by the institution without her knowledge or consent. They were easy to grow and lent themselves well to all sorts of experiments. Unbeknown to the patient and her family after her demise, the harvested cells were shared, sold commercially and available all over the world to study cancer. The cells are called HeLa, from Henrietta Lacks. This contribution to the furtherance of scientific knowledge is not given its proper due. Johns Hopkins as an institution has yet to officially honor this humble woman. Were it not for a curious white college student, Rebecca Skloot, who singlehandedly carried out an investigation and published a book about the life of Henrietta Lacks, her story like so many others, might have remained unknown to the rest of the world. The book was published in 2010, The Immortal Life of Henrietta Lacks, Crown Books. A movie based on the book is
also available. A silver lining of this investigation is the establishment of the Henrietta Lacks Foundation created by the author, henriettalacksfoundation.org. **D-Human Radiation Experiments.** The official website of the Atomic Heritage Foundation atomicheritage.org is a good source to peruse through to become well acquainted with this horrific human experiment. Although it didn’t include only members from minorities, they were disproportionately represented. In a nutshell, as a side endeavor from the Manhattan Project, a highly secret undertaking by the federal government to develop the first atomic bomb, the idea of investigating the excretion rate of plutonium, uranium in humans came to life. The first person enrolled, without his knowledge was an African American at Oak Ridge in Tennessee. 30 people at different labs throughout the country were injected with highly radioactive material and studied. An official investigation took place in the mid-nineties under Bill Clinton when Hazel O’Leary, an Afro American, was the Secretary of Energy (incidentally she was the ex-wife of a late colleague surgeon) and appropriate guidelines were stipulated to prevent such unethical investigations in the future. Denying the above facts won’t help us. They were vicious acts committed without regard for patients’ safety and can’t be condoned no matter what the goal could have been. We were not part of the decision-making process but as part of the establishment, we need to be aware of them and not act as if they never happened. Being on the side of the patient entails we acquire enlightenment about our medical history, as they say, warts and all.

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**LE CAÏD.**

Reynald Altéma, md.

Les vautours encerclaient selon leur mode, silencieux, persistants. Cela présageait une charogne que leur nez pouvait détecter avec précision même à distance. Il savait bien qu’en avant près de la courbe, Enpas Tchanpan, un dépotoir puant, qu’il y aurait un chien ou chat mort au minimum mais le nombre d’oiseaux survolant suggérait qu’on avait affaire à une plus grosse proie. Laquelle était une bonne question. Cependant c’était le cadet de ses soucis. Sa grande inquiétude était de devancer les autres vautours, armés jusqu’aux dents, qui seraient sur cette piste. La veille, dans la soirée, un avion s’est écrasé contre le flanc de Môn Sankanson, une haute élévation avec une descente à pic. Un accident d’avion dans cette zone indiquait clairement qu’un narcotrafiquant transportait de la bonne marchandise.

Pour Tèt swa, c’était l’aubaine qu’il souhaitait trouver tôt ou tard pour échapper à cette vie de chien qu’il a connue dès son plus jeune âge. Tèt swa ruminait toujours dans sa tête sur le butin qu’il pouvait acquérir et l’argent qu’il gagnerait en vendant la cocaïne et débuter son propre commerce honnête en agriculture. Cependant Enpas Tchanpan s’annonça de plus en plus : un air farineux, pestilential, le bourdonnement d’insectes, excepté que cette fois ces signes étaient amplifiés. L’impasse ressemblait à une enclave désertique, un sol sec, une chaleur à crever avec un soleil de plomb. La chair laissée au sol se décomposait vite pour terminer en des siccation. Tout de même il ne pouvait s’imaginer la scène affreuse qu’il découvrit : le corps mutilé et décapité d’un jeune homme. C’était le signe le plus convainquant que les vautours armés l’avaient devancé et que le même sort l’attendrait s’il insistait à aller de l’avant. Dans un délic, il fit la conclusion perspicace que profane dans un monde de professionnels, il s’embourbait dans une souricière de son propre gré, et ceci sans le savoir. Une sueur froide spontanément grossit de sa nuque et descendit le long de son épine. Son cœur battait la chamade. La frousse l’envahit. Il devait quitter la zone le plus vite possible pour éviter d’être accusé de ce meurtre. Surtout il y avait la nécessité de se mettre à couvert, car les fauves se servaient de leurs membres comme éclaireurs, d’espions payés pour surveiller le paysage et surtout le déplacement d’hommes armés. Il était au courant de cette méthode ; pourquoi a-t-il pensé qu’il serait le seul à essayer de capturer le butin prouvait sa naïveté. Tèt swa était membre d’un gang et il n’avait pas leur permission et par conséquent pas de protection en s’aventurant solo. Il prenait sa vie entre ses mains en commettant cette gageure, une audace pour un coup de maître en cas de succès ou un coup de masse pour une sottise en cas d’échec. Il avait en sa possession un Uzi en banderole et un revolver Glock à la ceinture. Son métier était l’exécution d’une personne ciblée à brûle-pourpoint. Il n’a jamais eu à se défendre homme à homme. Son portable enregistrait l’absence de signal. Il était seul comme auparavant lorsqu’ilarpentait les rues de la capitale, gamin, orphelin de mère dès l’âge de huit ans. Elle fut une victime du choléra. Par
contre il ne connut jamais son père. Selon la rumeur, son père fut un soldat pakistainais en mission avec le MINUSTAH. Il quitta le pays peu de temps après sa naissance. Un métis, il avait une chevelure lisse, ondulée. Il était aussi poilu.

Gamin, il gagnait sa vie en essuyant les voitures ; un sans-abri, ayant le trottoir pour lit, et l’eau de rigole pour se baigner. Un véritable kokorat il devint, sans aucune direction sinon que l’instinct de survie au jour le jour. Pour son malheur, sa société n’avait aucune soupape de sécurité sociale. Il pouvait à peine lire et écrire son nom. La compétition pour la survie était intense, car d’innombrables enfants comme lui pullulaient dans les rues de la ville.

Son beau visage aidait malgré un physique chétif, cadeau de la malnutrition. Il avait retenu l’attention d’un jeune mec qui venait souvent dans une coupe neuve et élégante. Ce mec lui donna le sobriquet de Têt swa et était généreux à son égard ; vite il devint un client. De fil en aiguille, ce jeune homme l’invita un après-midi pour aller prendre un repas et prendre un bain. Il avait à peine dix ans. Il eut le meilleur mets, une fois qu’il eut pris une douche et eut enfilé des habits neufs, grâce à la largesse de ce patron. Une fois repu, il paya un prix très cher : le mec le viola puis le combla d’argent après cette triste besogne. Cet acte l’avait blessé corps et âme. Il saigna pendant des jours ; la honte qu’il éprouva était telle qu’il considéra le suicide. Il évita ce mec aussi longtemps que possible. Cependant le trafic de voitures tomba au ralenti à cause de troubles politiques. Les automobilistes avaient peur des chimè et ne venaient presque pas en ville ou évitaient le lavage. Sans aucun parent, sans travail, la misère le tenaïa. La faim se déguisait comme un bras de fer entre la douleur tenace des entraîlles, telle une colique, et la sécheresse lancinante des lèvres. Pour envenimer la situation, le quotidien constant accompagné de perte de connaissance de temps à autre et un mal de tête sèvère s’y associant de concert. Ce calvaire était insupportable et perpétuel, le compagnon avint et après le sommeil. Il assistait à sa propre déconfiture au ralenti. Il eut beau résister mais à la fin il n’eut aucun autre choix que de participer au commerce de la vente de son corps. Il découvrit qu’il existait un réseau qui se partageait les jeunes garçons. Ce réseau était composé d’hommes respectables de la société comme un vrai échantillon de professions libérales. Il haisait sa participation dans ce cercle libidineux, cependant l’instinct de survie était plus fort. Il haisait l’infection acquise en deux occasions, car la sensation pénible et accablante, augmentée de migraine l’affaissa, et il ne pouvait gagner sa vie. Gagner sa vie était devenu un jeu macabre de roulette russe.

Sa participation prit fin par une circonstance kafkaesque à l’âge de quatorze ans, cinq ans plutôt. Il fut témoin d’une exécution de l’un des membres de ce réseau, tandis qu’il était à poil sur son lit. A cause de son jeune âge, le tueur à gage eut un peu pité et il eut à choisir entre deux offres, ou bien devenir membre du gang ou bien perdre sa vie sur le champ. Une fois de plus l’instinct de survie connut la victoire. Il apprit à manier les armes ou plutôt à mettre le doigt sur la détente. Ses victimes étaient surtout des hommes ; les raisons pour les exécutions, il ne s’en inquiétait pas, mais il avait la vague notion qu’il s’agissait en grande partie de règlements de comptes. Les instructions pour chaque mission étaient monotones : la vie de la victime ou la tienne ; pas de désobéissance.

La première exécution fut aussi traumatisante sur sa psyché que le viol. La victime fut un jeune mec qui avait osé désobéir à un ordre. Sa main tremblait tant, la transpiration, la palpitation étaient si puissantes qu’il se sentit submergé. Il ne put presser le doigt sur la gâchette qu’en se rappelant que sa vie aussi était dans la balance. Il eut un cauchemar pendant des nuits consécutives. La paranoïa l’envahit pendant un certain temps. Il vit un regard accusateur dans chaque pair d’yeux qui croisaient les siens. Le meurtre et la saleté exerçaient le même effet répulsif. Il prit du temps pour s’habituer à son nouveau statut. Cependant, il ne put jamais accepter comme un fait divers l’élimination d’une vie humaine.

Il recevait en échange une rémunération, même de façon irrégulière, l’accès au bòz et l’alcool, desquels il tomba friand rapidement. Ainsi il s’en servait pour adoucir l’épouvante et le désarroi qu’il ressentait avant et après l’exécution d’un ordre reçu. Il en avait marre de toujours prendre une décision de vie et de mort à chaque étape de sa vie ; parfois il se demandait si vivre valait la peine. L’ivresse aux mains des femmes, une nouvelle découverte dont il raffolait, la séduction offerte par l’alcool, servaient de rôle d’anesthésie émotionnelle. Il prit du lessivage pour éliminer son analphabétisme. Pour envenimer la situation, la palpitation étaient si puissantes qu’il se sentit submergé. Il ne put presser le doigt sur la gâchette qu’en se rappelant que sa vie aussi était dans la balance. Il eut un retrait sain et sauf de cette souffrance, quitte à tenter sa chance une autre fois en y planifiant mieux. Il n’eut pas longtemps à y penser. « Le voici, » cria un éclaireur, le pointant du doigt. Une rafale de balles l’emmena en deux occasions, car la sensation pénible et accablante, augmentée de migraine l’affaissa, et il ne pouvait gagner sa vie. Gagner sa vie était devenu un jeu macabre de roulette russe.
What is new with COVID-19
Maxime Coles MD

Recently I was surprised to hear that COVID-19 patient can develop Parkinson’s disease. This disease indeed has mastered the art of defying the Medical science. There have been three cases reported where patients suffering of COVID-19 has developed Parkinson, a disease that impair a person movements and coordination. Should we worry then when we see trembling of the hands and legs, slow motion with sudden nail, stiff limbs and finally poor balance?

Professor Patrick Brundin, director at the center for Neurodegenerative Science at the Vandal Research Institute in Michigan, wrote a new article, titled “Is COVID-19 a perfect storm for Parkinson’s disease? He detailed the recent cases he observed while three patients infected with the SARS-CoV-2 for 4 to 5 weeks, have developed parkinsonism.

Two patients: a 35-year-old woman and a 45-year-old male were treated with Dopamine and recovered well while another 58-year-old male recovered spontaneously. Their brain imaging showed that the nigrostriatal system” has decreased in size. This system is known to be in control of the body motion after brain imaging, the same way it is observed in patient suffering of Parkinson disease. These 3 patients have no previous signs of Parkinson, nor did they have any family history which generally attack people in their sixties or older.

It appears that those patients may have been destined to suffer from Parkinson Disease or were showing a deficient functioning nigral dopamine neurons and perhaps the viral infection precipitated the neurodegenerative process at a critical point. Professor Brundin suggested three mechanisms to explain how this virus may have induced the signs of parkinsonism:

1- The blood vessels in the brain become infected damaging the nigrostriatal system, the same way it happens in the vascular form of Parkinson disease caused by a cerebrovascular accident like a stroke impairing the blood flow to the brain.
2- The inflammation may reach the brain with the COVID-19, extending to the nigrostriatal system.
3- The virus SARS-Co-V-2 may invade and damage the brain neurons rich in ACE receptors and facilitating the entry of the virus into the brain cells.

We have seen viruses in chronic diseases like Hepatitis B (HBC) and Hepatitis C (HBC) cause chronic liver disease and failure. Other viruses like the human papillomavirus is known to cause cervical cancer. The virus of the Herpes Simplex type has been associated to Alzheimer’s disease, and finally, the adenovirus has been found to accelerate obesity. The Influenza pandemic appeared has preceded a Parkinson disease epidemic of the 1940-1950 decade. Animal model have demonstrated that the influenza virus was able to infiltrate the brain’s nigrostriatal system to induce Parkinson Disease. COVID-19 may has surprised most physicians in all specialties but our neuro-scientists appear to be ready to face the neurological sequelae especially the one precipitating Parkinson disease. Researchers have identified other neuro-invasive pathogens linked to Parkinson Disease like the Epstein Barr virus (EPV), Varicella zoster (VZV), Hepatitis C (HCV), West Nile virus (WNV), Japanese encephalitis virus (JEV). Human immunodeficiency virus (HIV) and the helicobacter pylori bacterium. Varicella zoster, Hepatitis C virus and H pylori infections have found all to be increasing the risk of a patient suffering from Parkinson disease. While Herpes Simple (HSV-1), Epson Barr virus, HIV virus and the Japanese Encephalitis virus are more Prevalent in Parkinson disease than in the general population.
SARS-CoV-2 infection may be in a silent mode even if the virus may no longer be present in the immune system, but remains rampant. The world was caught off guard by the first wave of COVID-19 but it appears that the neurologists are confident they will be ready for the next wave of neurological sequelae such as Parkinson disease in Australia, a national screening program is being developed and scientists are applying for grants to help them catch the early signs of Parkinson Disease. They know well the way no cure has ever been developed for this disease.

No other coronaviruses have acted like the SARS-CoV-2 although a 1992 study has detected antibody protection against common cold causing the coronavirus to reach the cerebrospinal fluid of Parkinson disease patients. Nothing can be concluded from this experience but may simply indicate that Parkinson disease patients are more susceptible to coronavirus infections rather than coronavirus itself inducing Parkinson disease. It has been demonstrated that many other pathogens can accelerate Parkinson disease progression while the brain become infected. We will have to attest if in the future such theory can be proven. pathogen can accelerate Parkinson disease progression while the brain become infected. Are there any risk factors involved like age, sex, head trauma, exposure to toxic metal, or certain psychiatric drugs? Are there any protective factors like exercises, Vitamins D or E or even caffeine intake? Let us wait what the post COVID19 era will bring us.

Three cases of COVID19 were documented with symptoms of Parkinson’s disease month later after the onset. There was no known family history nor the three patients have shown any previous signs of Parkinson disease but they have demonstrated brain abnormalities in the nigrostriatal system which control the body movement. Only one patient recovered and the other one have received the usual therapy received by Parkinson patients.

SARS-CoV-2 virus is known to be able to injure the brain. Evidence can be speculative let us agree that this virus can also hasten the progression of Parkinson in at least susceptible persons.

Maxime Coles MD
Ste Croix, Virgin Island
11-21-2020
Dear Chat & Chew Supporters,

For the last four years we have gathered for Chat & Chew and to celebrate the work being done by Fondation pour les Enfants d’Haiti (FEH) and supported in the USA by United States Foundation for the Children of Haiti (USFCH). Because of the Covid-19 pandemic, it was not safe for us to get together this year.

Since we are not able to gather physically, I am appealing to you to make a generous, tax deductible, contribution. PayPal donations may be made via the USFCH website (www.usfch.org) or by check to USFCH, PO Box 521171, Tulsa, OK, 74152-1171. Please mark you check or PayPal donation “Chat & Chew.”

If you are not already on the USFCH e-mailing list, please sign up on the website (About Us/Stay in Touch). I think you will be interested to get notices during the year about changes and challenges in Haiti. Your contact information will not be shared. Under the leadership of Gladys Thomas our work grows as we seek God’s direction to help the people of Haiti. I know you will be amazed to learn about what we are doing. Those of you who have attended Chat & Chew previously know about our hospital and schools.

Since last year FEH/USFCH has conducted food distributions and Covid-19 training in famine stricken Mousotte in the mountains south of Port-au-Prince. Also, we are upgrading the energy production at Hope Hospital using solar panels…a huge undertaking and investment in the future. FEH hopes to limit the interest expense for the solar system by paying off the loan as quickly as possible. Will you help us do this?

This is Cynthia, one of our very special children. Because she lives at Children’s Village of Hope and attends the academically integrated classes at New Academy of Excellence, she is thriving and loving life.

By your prayers and donations you will be part of our effort to bring about a better future for the people of Haiti. Through health and education we endeavor to be.

Changing Minds, Changing Hearts, Changing Lives!

I thank you for your support; and God willing, we will get together next fall to once again to celebrate Fondation pour les Enfants d’Haiti and United States Foundation for the Children of Haiti. May God bless you and your family.

Sincerely,

Mario Saint-Laurent, MD, FAAP
Medical Coordinator, USFCH Board of Directors
Abonnez-vous à l'infolettre
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